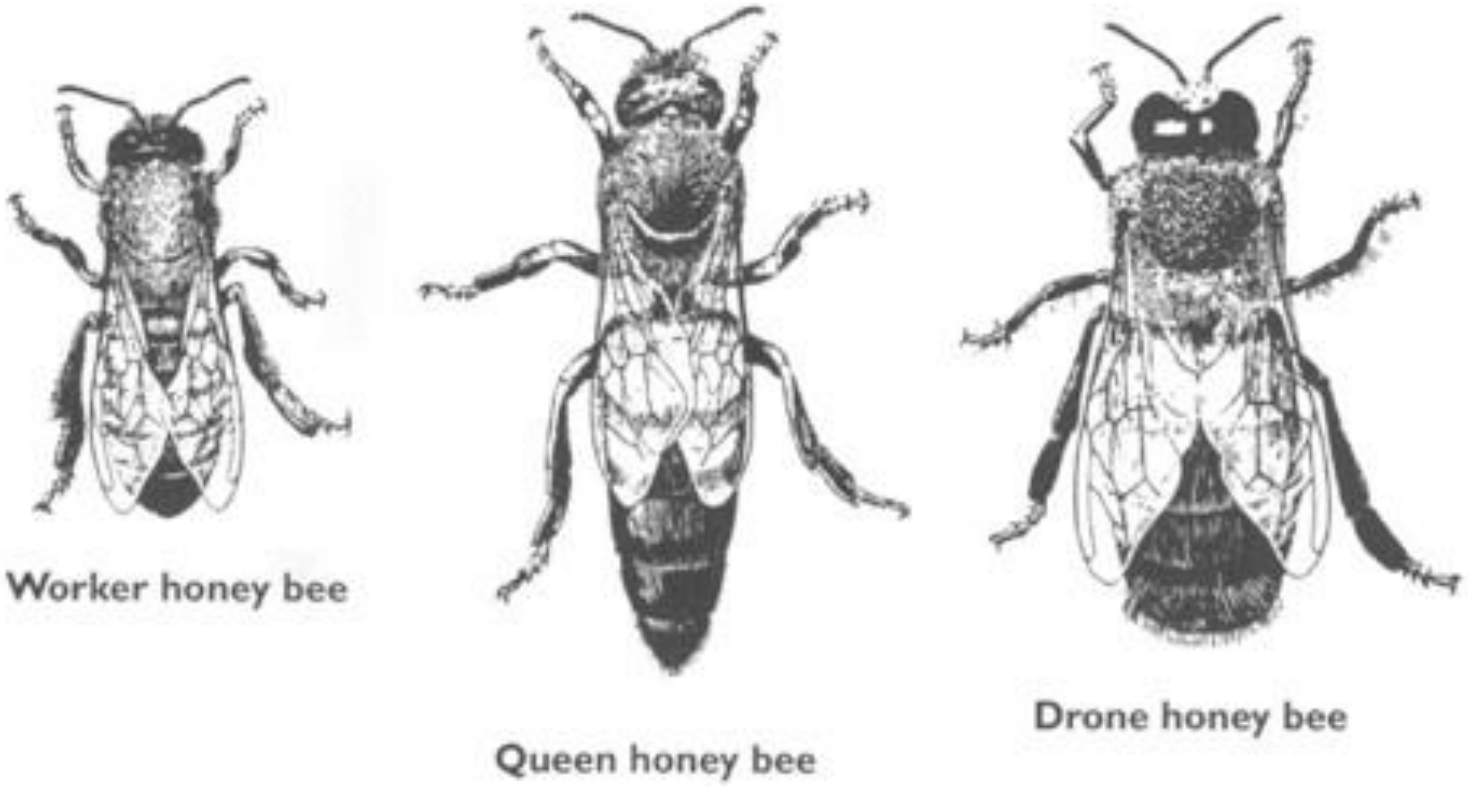
# Beekeeping has become Bee Management.



Worker honey bee

Queen honey bee

Drone honey bee

# Life Cycle of the Honeybee Family

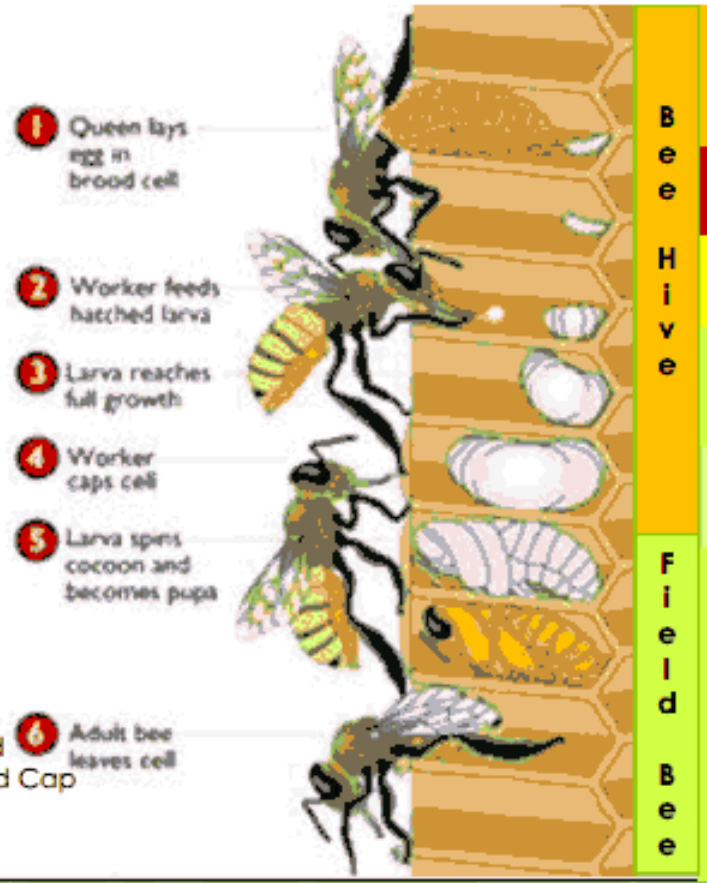
| Queen | Worker | Drone |
|---|---|---|
| 1-3 | 1-3 | 1-3 |
| 4-9 | 4-9 | 4-9 |
| 10-15 | 10-15 | 10-15 |
| 16 | 16-20 | 16- |
| | 21 | -23 |
| | | 24 |

Period As Egg

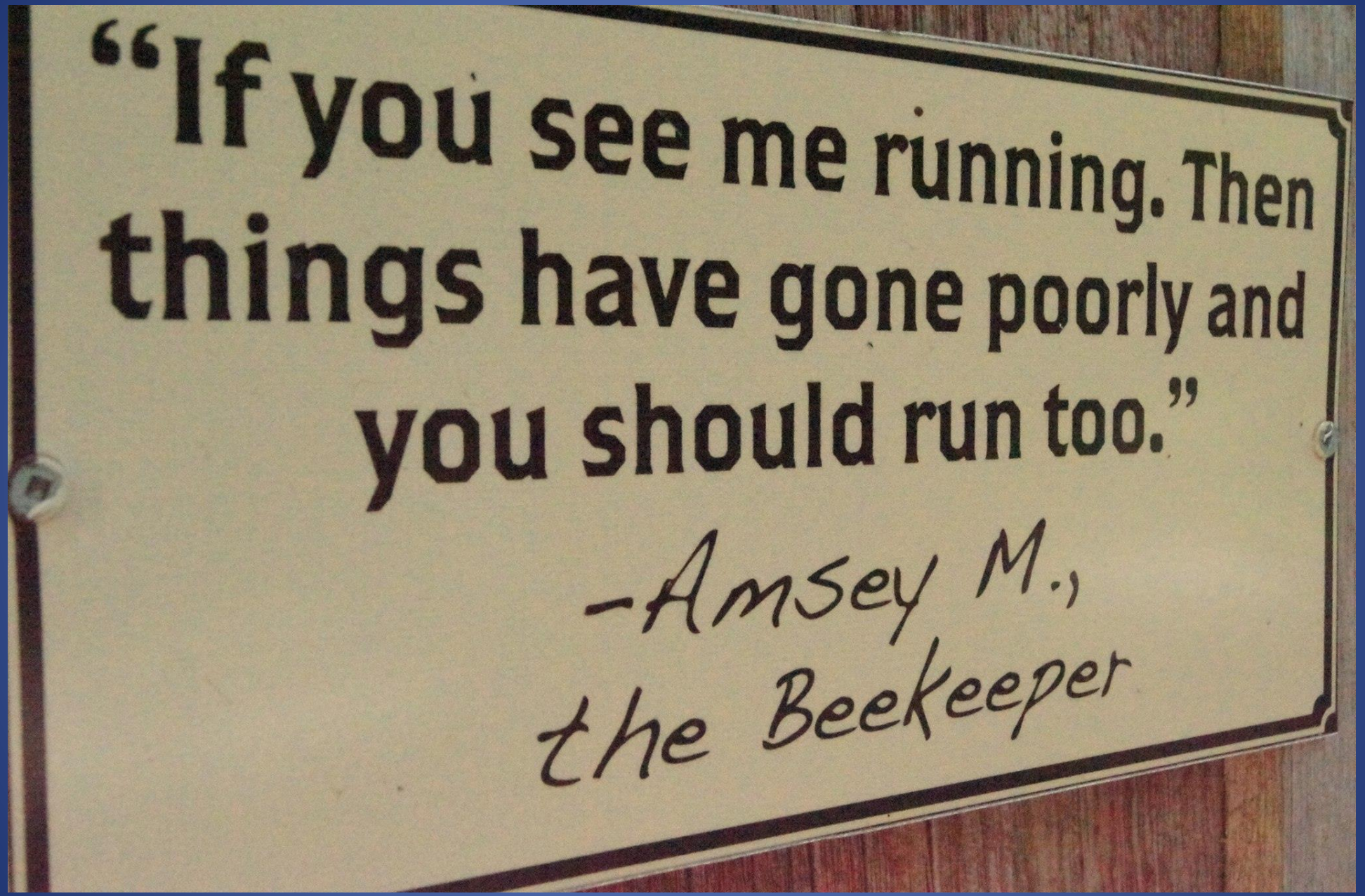
Period As Larvae Feeding

Larvae Spins Cocoon and Transforms Under a Closed Cap

Bee Emerges




| days | worker bees tasks |
|---|---|
| 1-2 | Cleaning Cell and Keeping Brood Warm |
| 3-5 | Feeding Older Larvae |
| 6-11 | Feeding Younger Larvae |
| 12-17 | Producing Wax, Building Combs, Transporting Food Within the Hive |
| 18-21 | Guarding Hive Entrance |
| 22-34 | Visiting Flowers, Pollenating Them and Collecting Pollen/ Nectar/Propolis/ Water |
| 35-45 | End of Life |


"If you see me running. Then things have gone poorly and you should run too."
-Amsey M., the Beekeeper

# Bee Management

“I have not failed. I've just found 10,000 ways that won't work.”

— Thomas A. Edison

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“By failing to prepare, you are preparing to fail.”

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**Think like a bee, but when logic fails search deeper.**

If you ask 10  beekeepers a question about how to keep bees you will get 12 answers. Everyone has their way to keep bees.  It has been said there are 5 ways to keep bees.

**The Right way**

**The Wrong way**

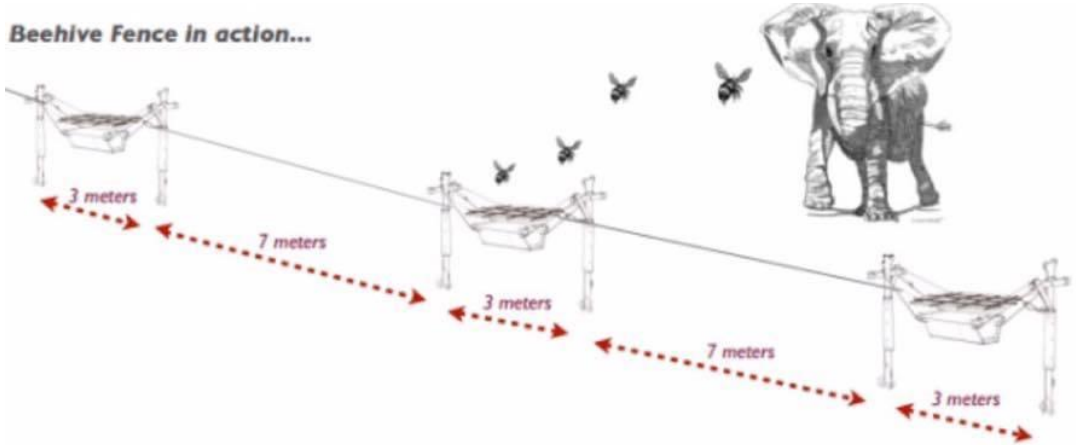
**Your way**

**My way**

**The Bees way**

**It comes down to doing what works for you.**

# Bees used for fence in Africa




# What is your desire for Beekeeping?

1. Pollenate my garden.
2. Make Honey.
3. The pure pleasure of working bees.
4. A desire to help save the bees.

Each approach can and will consist of different applications and care.

# Things to take into consideration when choosing your hive equipment.

1. What is my initial desire for keeping bees?
2. What physical limitation define the type of equipment I want?
3. Do I have a safe place to establish my yard?
4. Do I have the time to care for them properly?
5. How many hives do I want as a limit.
6. Do I have a close water source or can I provide one for them to avoid conflict with neighbors?

# Average Cost to start Beekeeping (Mann Lake)

1. Bottom Board Cypress 10 Frame(Screened) $19.95
2. Deep Hive Body Pine 10 Frame (unpainted & unassembled) $19.55 need 2.
3. 10 Deep Frames (Plastic Foundation assembled) $38.00
4. Medium Winter Super Box (unpainted & unassembled) $15.45
5. 10 Medium Frames (Plastic Foundation assembled) $38.00
6. Inner cover for 10 Frame configuration ($10.95)
7. Feeder Pail ($2.99)
8. Telescope Cover 10 Frame ($19.90)
9. Bee Coat $109.95

10 Gloves $23.50

11. Leg Straps $3.95
12. Bees $165.00

13 Smoker $24.95

Total = $503.49

# Box an hive types and configuration.

- Tree trunk (natural to feral bees)
- Log ( a tree trunk sawn down and laid down to make a colony home.)
- Skep/clay-pot (Used in some countries but almost never here.)
- Huber “The Leaf Hive”(1789)
  - Langstroth 1852 (Most popular configuration.)
    - Dadant
    - National
      - Rose OSB
      - Smith
    - Warré ( Developed by Abbé Émile Warré (1867-1951)
  - WBC -> {National frame size} (It's the pretty cottage style hive)
- Top-bar/TBH/African ( Developed because of materials availability)
- “fad” hives/frames (Flow Hive with special frames and function)

# Think like a bee, but when logic fails search deeper.

Bee’s have their own logic as to what the colony requires according to many influences, some we can effect.  After keeping bees for a couple of years the logic comes into greater focus.

If a colony offers an unusual activity look deeper, some activities are natural but new to a new beekeeper.  Some activities are revealing a deeper problem or need of the colony.  These signs will become more evident with experience.

# Think like a bee, but when logic fails search deeper.

New beekeepers are urged to join a local association for ongoing input and education.  Veteran beekeepers are your training wheels, take advantage of there experience and knowledge.  Most of there knowledge has come the hard way.

Sometimes Logic goes out the window and intervention is imperative for the survival of the colony.

**What equipment is right for me?**
**Deep, Medium, or a mixture of each?**

**Which configuration is best for me?**
**10 Frame, 8 Frame?**

**Am I physically limited in lifting?**

# Skeps

# Top Bar Hive

This hive configuration is a difficult hive to establish and maintain.  It requires much more maintenance than other configurations.  It is not for beginners in my opinion.  It has drawn some interest in the past few years but has its limitations and pitfalls.

# Warre Hive

This hive configuration is difficult as well.  It is somewhat similar to the Top Bar hive in it uses empty bars and not frames.  Additional boxes have to be added from the bottom meaning more heavy lifting.  It offers many problems and should be avoided in my opinion.

Huber’s leaf hive. The Leaf Hive, invented in Switzerland in 1789 by Francis Huber, was a fully movable frame hive. The combs in this hive were examined like pages in a book. A.I. Root and E.R. Root credit Huber with inventing the first movable frame hive.

# Langstroth Hive

Introduced by a Rev. LL Langstroth in 1852.  It lends its configuration to greater accessibility to inspection, expansion and overall workability.  The components are more available to purchase or build yourself.  It is available in 10 frame, 8 frame and 5 frame configurations to meet your choice or as the application demands.


The Flow Hive is a proprietary design for a beehive launched in 2015. It was based on a design by father and son team of beekeepers and inventors, Stuart and Cedar Anderson from Australia. However, the flow hive has been highly controversial within the beekeeping community as it encourages the lax of maintenance of the hives against diseases and pests and encourages sickly bees.

# Beginners Basic equipment needed to inspect and attend beehives.

1. Protective outer clothing.
2. Smoker and fuel.
3. Tools to work the hive.
4. Feeding application.

# Beginners Basic equipment needed to inspect and attend beehives.

## Protective outer clothing.

Full suits or Jackets are available.
Dome veils or a brimmed veil.

Gloves are a must for beginners. Some instructors suggest a bare handed approach, I do not. One can use latex gloves at least 7mm thick (Harbor Freight). You can still get stung with any glove. Never use the black gloves.

# Choose the fuel you will use in your smoker.

Cotton plugs

Cotton cloth

Cedar chips

Pine needles

Leaves and grass

**Never empty your lite smoker on the yard.**

**Empty into a can or metal bucket!**

# Tools you may need to work your hive.

Hive tool has many functions and comes in may different configurations, to open the hive, work the frames, clean frames and separate boxes.

Bee brush can be used to encourage the bees from a frame for inspection.

Frame clamp can be used but my not be necessary if you have good hand and finger strength.

# Feeding application and Equipment.

**Entrance Feeder**

**Miller top feeder**

**Baggie Feeder**


**Dry Pollen/Syrup Feeder**

**Pail Feeder**

**Internal Feeder**


**Inverted Feeder (jar)**

**Dry sugar**

# External Pollen Feeding Stations

# I Want Candy! So Let's Make A Candyboard For Winter Feeding

- 15-16 lb. of sugar*
- 3 cups water
- 1 tbsp. plain white vinegar (optional)
- 1 Pollen patty (optional)

# General Yard maintenance to avoid pests.

Keep an empty container handy to gather any wax debris or burr comb you may scrape off the top bars of the frames or any other hive surface.

If you disgard hive debris in your bee yard it will attract pests and unwanted insects to the hive. You can melt it down after you have acquired a sizeable amount.

# Hive location.

The most desirable location should be where they do not pose a danger to the public.  Locate facing in a Southeast direction with a slight tilt forward to drain any unwanted water or moisture from the hive.

Bees wake up earlier with the sun striking the entrance first thing in the morning.  Some plants offer their nectar early.

Do not put hives in extreme shade.  Partial shade in the late afternoon is acceptable if you just cannot place them in full sun, beware of hive beetles.

**Getting your bees.**
**Search web and ask other beekeepers.**
**Buy local if possible.**

# What is the difference, a Package or a NUC?

The choice depends on you intentions for your hives.  A package is more difficult and will most likely not make honey the first year.  The package consists of a screened box of 3 pounds of bees (20,000 approximately) a queen and a can of feed.

A NUC is a starter hive consisting of 5 frames with bees, brood, larvae and food.  Can produce honey the first year if managed properly.

# Installing a Package

*<u>Both are simple to install but both require caution.</u>*

Step One should be to spray the bees with sugar water bump the box to settle the bees in the bottom of the box.

The sugar water spray is to minimize their flying prior to an during installation.  You remove the can of feed and the queen cage exposing the bees.  Spray again with sugar water.

# Installing a Package

*<u>Both are simple to install but both require caution.</u>*

Now you shake them into the hive, first remove 3 or 4 frames then center frames to give the bees some room.

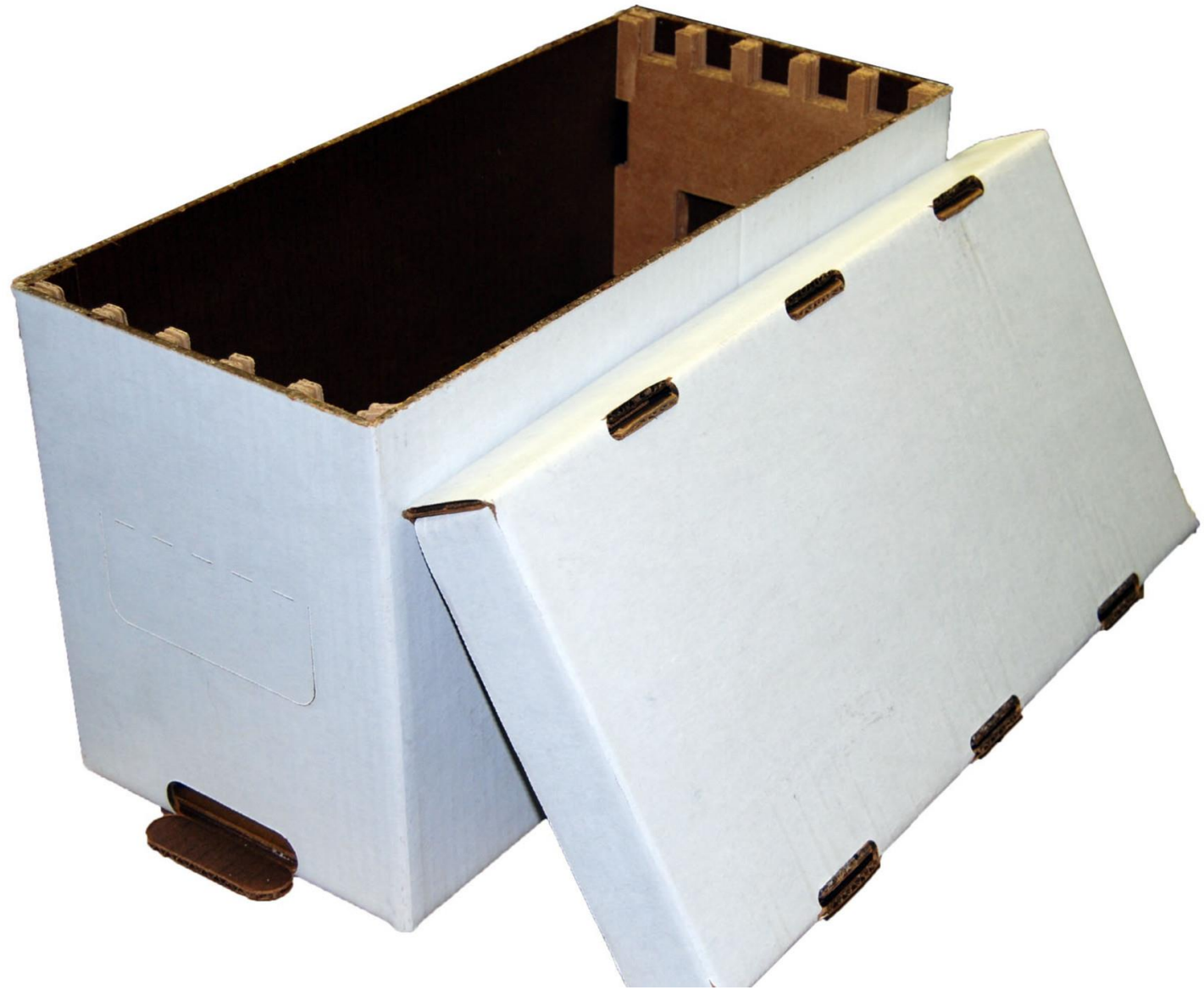
Remove the cork from the candy end of the cage. **Do not** take the other cork out because she will fly away.

# Installing a Package

*Both are simple to install but both require caution.*

The queen cage must be suspended between the center frames, do not restrict the screen wire on the front of the cage facing parallel to the frames, she can suffocate.

After they settle down you can replace the frames and close the hive up.  Do not go back into the hive for 2 weeks to see if she is laying eggs.  You should feed them as soon as you install the queen.



# Installing a NUC.

*Both are simple to install but both require caution.*

A NUC is a starter hive having 5 frames, 3 brood, a food frame and a frame of foundation for expansion.  The queen is already installed and laying eggs.  It is a fully functional hive ready to be placed in your equipment.

You should feed giving them a source to use to draw out the bare foundation frames that fill out the hive beyond to what ever configuration you have chosen.  You may have to rotate some frames in about 2 weeks to help them draw out the foundation making a whole hive.

# Installing a NUC.

*Both are simple to install but both require caution.*

Once the bees have expanded to fill 75 to 90 percent of the hive body you should add the winter super to be drawn out.  Once spring nectar starts to come in they will usually stop taking sugar water.

# Questions?

# Getting started with your hive or hives.

# Seasons and Beekeeping

*Each Season offers a different need and function for the colony. Some have the same basis but all are focused to the survival of the colony.*

Spring: Developing a new colony requiring feeding and minimal inspection. Encouragement for future expansion of your yard. Evaluating prior to treatments.

Summer: Monitoring to prevent swarms, adding honey supers and gathering supers for extraction. Evaluating prior to treatments. Feeding during dearth.

Fall: Supplemental feeding preparing for overwintering hives. Evaluating prior to treatments.

Winter: Prepare hives for winter, remove unneeded equipment. Have alternate emergency feeding plan.

Terms you may hear but may not concern you the first year we hope.  Most require experience to venture into or resolve.

**Never let your enthusiasm outrun you skill or knowledge.**

1. Natural or treatment free beekeeping.
2. Foundationless frames.
3. Splitting a hive.
4. Forcing the maturing of a hive.
5. Laying workers.
6. Honey bound.
7. Pollen bound.
8. Absconding hive.
9. Robbing.

# Temperatures

- Maximum and minimum outdoor temperatures are important when choosing your medication.

## Api-Life VAR 10 Pack

Product Code: C417

**$36.50**

74% thymol oil, also contains eucalyptol, menthol, and camphor.

An alternative, natural **Varroa Mite** treatment. Up to 95% effective and most effective when temperatures are between 65'-95' F.

**Apiguard**
Product Code: C430
**$36.50**


A slow release **Thymol gel**, for the treatment of **Varroa Mites**. This is a safe, easy to use, organic treatment. Best results occur when daily temperature is between 60-105 degrees Fahrenheit.

## Apiguard 3KG Tub

Product Code: C431

**$100.95**

**Thymol gel**. Apiguard Bulk Tub contains 60-50g treatments in bulk gel form. Tub comes with dosing scoop, spatula, and delivery pads. For the treatment of **Varroa Mites**.

## Mite Away Quick Strips 2 Pack

Product Code: C426

**$6.38**

Contains: 2 doses of Mite Away Quick Strips (MAQS) 4 strips. Now even the smallest hobby beekeeper has access to using MAQS on their colonies.

**48.4% Formic Acid**

## 10 Pack Mite Away Quick Strip-10 Treatments, 20 Strips

Product Code: C425

**$24.00**


Mite Away Strips (MAQS) are now available for the treatment of **Varroa** mites! These new strips are easy to use, very convenient, and you don't need any extra equipment. The treatment lasts for 7 days and it is the first treatment you can use with honey supers on.

**48.4% formic acid**

## Apistan - 10 Strips

Product Code: C415

**$29.95**


Used for controlling **Varroa Mites**. Two strips are recommended for each hive.
10 strips per box.
**Fluvalinate**

**Apivar**
Product Code: C422
**$36.50**


**Amitraz 12.5 %** based weapon against **Varroa Mites**. Apivar is packaged in a vacuum sealed foil pouch that contains 10 strips. It takes 2 strips to treat a hive.

**Checkmite - 10 Pack** **$35.95**
Product Code: C420

**Checkmite - 100 Pack** **$249.00**
Product Code: C421


Checkmite is used for treatment of **Varroa** mites. This is the only treatment that will treat **Small Hive Beetles** inside the hive.
**Coumaphos**

**Beetle Blaster**
Product Code: C419
**$1.60 each**

A new natural way to control **Small Hive Beetles** developed by Laurence Cutts.  Simply fill the trap about halfway with food approved oil and place between the frames.

## Menthol - 10 Pack

Product Code: C412

**$38.50**

Approved for the control of **Tracheal Mites**. Treat Tracheal Mites both spring and fall. Remove menthol 30 days before the honey flow begins.

**Fumigilin - B - 0.5 Gm**
Product Code: C402
**$19.95**

**Fumigilin - B - 2.0 Gm**
Product Code: C401
**$45.95**

**Fumigilin - B - 9.5 Gm**
Product Code: C400
**$144.95**


This product is used exclusively for the prevention and restriction of **Nosema Disease**. Research shows that spring feeding of Fumagilin-B can increase honey production significantly.

## Para - Moth - 1 Pound

Product Code: C407

**$13.95**


**100% Para-dichiorobenzene**, active ingredient. This product aids in keeping **Wax Moths** and their larva under control in stored supers.

**Treat your bees responsibly, treat them now.**
**Get your hives strong, disease free, pest free for the Fall , Winter and Spring.**

# Getting ready for Spring

## As money is short after Christmas some things may have to be paused for a while but considered.

1. What is you focus
2. Make plan for upcoming year
3. Evaluate existing equipment repair, paint or replace
4. Purchasing replacement or needed equipment or Build equipment
5. Equipment preparation and hive preparation materials (paint or stain)
6. Evaluate information on bee treatments, Order treatments in relationship to number of hives
7. Prepare for all feeding methods
8. Locate out yards
9. Survey crops grown within 5 miles of your yard
10. Consider local and relationship to water, wind and humans

1. What is you focus
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5. Equipment preparation Investigate hive preparation materials (paint or stain)

Do you want to make HONEY?

Do you want to expand your BEE YARD?

Are you replacing LOST COLONIES?

Do you just want bees for POLLINATION?

1. What is you focus
2. Make plan for upcoming year
3. Evaluate existing equipment repair, paint or replace
4. Purchasing replacement or needed equipment or Build equipment
5. Equipment preparation Investigate hive preparation materials (paint or stain)

## Establish a feeding schedule including winter preparations.

Locate Queens, Nucs if needed.

Plan a treatment schedule.

Plan for honey super addition.

Plan for honey harvest.

Group buy jars to get a better price.

Locate and schedule the use of an extractor.

1. What is you focus
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5. Equipment preparation Investigate hive preparation materials (paint or stain)

# Purchasing replacement or needed equipment.

## Places to purchase equipment.

### Brushy Mountain Bee Farm
610 Bethany Church Road
Moravian Falls, NC 28654
1-336-921-3640

### Miller Bee Supply
496 Yellow Banks Road
North Wilkesboro, NC 28659
Phone 336-670-2249

### Dandelion Bee Supply
737 Irish Potato Road
Concord, NC 28025
704-796-2972

### Fort Dobbs Hardware
406 Turnersburg Hwy
Statesville, NC 28625-2799
704-872-2300

### Mann Lake
Mann Lake Ltd.
501 S. 1st St.
Hackensack, Minnesota 56452
Phone Number: 1-800-880-7694

### Dadant & Sons Inc
820 Tightsqueeze Industrial Road
P.O. Box 1219
Chatham, VA 24531-1219
1-800-220-8325
**Phone:** 434-432-8461

### Walter T. Kelley Company
PO Box 240
807 West Main Street
Clarkson, KY 42726
**Toll-Free:** (800) 233-2899
**Local:** (270) 242-2012

### BETTERBEE
8 Meader Road
Greenwich, NY 12834
1-800-632-3379

### Triad Bee Supply LLC
4062 Evergreen Drive
Trinity, NC 27370
336-475-5137

1. What is you focus
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## Hives that are getting old need some TLC

1. A few nails or screws may get you another years use.

2. Some you can cut the bad off and make a winter super from a hive body or spacer for winter feeding.

3. A hive body or medium super may absorb treatments and should not be used for honey gathering.

4. Some have too many holes and gaps to use. But that is what duct tape is made for. Unless they look like the Titanic.

1. What is you focus
2. Make plan for upcoming year
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5. Equipment preparation Investigate hive preparation materials (paint or stain)

**Different finishes for different applications or preferences.**

Standard white enamel for new boxes or latex base paint.

Some stains or waterproof finishes work well for Garden Hives.

Some latex paints can be applied in as low as 50 degrees.

This can work well when wanting to paint occupied hive bodies.

6. Evaluate information on bee treatments Order treatments in relationship to number of hives
7. Prepare for all feeding methods
8. Locate out yards
9. Survey crops grown within 5 miles of your yard
10. Consider local and relationship to water, wind and humans

# There are many options here

Internet
Word of mouth
Attend bee schools
Attend bee association meetings.

Research costs and ease of application of product.

Schedule application prior to honey flow.

6. Evaluate information on bee treatments Order treatments in relationship to number of hives
7. Prepare for all feeding methods
8. Locate out yards
9. Survey crops grown within 5 miles of your yard
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# Feeding options can be influenced by the purpose for feeding

Spring feeding

1. For brood growth
2. For wax pulling
3. For yard expansion

**The type of feeders available, some are better than others for different reasons for feeding.**

# Feeding options can be influenced by the purpose for feeding

1. Hive top feeders are good if but you cannot work your hives every few days.

2. Bag feeders are a quick fix.

3. Bucket feeders are good for early spring feeding and for drawing wax without.

Over feeding will cause the frames to become honey bound hindering the queen from laying eggs.

# Feeding options can be influenced by the purpose for feeding

4. Entrance feeders are okay for beginners but too limited and always a danger of getting stung trying to change the bottle.

5. Jar top feeders work well but can offer the same danger being confronted by those still feeding.

6. Yard Feeding, always a danger of robbing and you are feeding bees other than your own, wasps and yellow jackets.

6. Evaluate information on bee treatments Order treatments in relationship to number of hives
7. Prepare for all feeding methods
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9. Survey crops grown within 5 miles of your yard
10. Consider local and relationship to water, wind and humans

1. Find farmers or landowners willing to let you put bees.

2. Find farmers who if they have livestock keep their fences up.

3. Find a place that is out of view but secure to avoid thief.

4. Look for cutover land that will offer at least 5 or more years of use before the trees grow too tall.

5. Work with the farmer or landowner if they do any type of spraying.

6. Evaluate information on bee treatments Order treatments in relationship to number of hives
7. Prepare for all feeding methods
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9. Survey crops grown within 5 miles of your yard
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**Crops may offer good forage for the bees and a great promise for honey production.**

**Some crops can effect your bees in a negative way. Others are very beneficial.**

1. GMO has been in question for a while.
2. Canola can be a great thing for drawing wax but can requires a lot of attention
   and the honey crystalizes quickly.

**Crops may offer good forage for the bees and a great promise for honey production.**

**Some crops can effect your bees in a negative way.  Others are very beneficial.**

3. Blooming outgrowth around fields offer a lot of natural forage.
4. Specialized Honey production such as Sourwood requires a special location and usually a dual nectar flow.

6. Evaluate information on bee treatments Order treatments in relationship to number of hives
7. Prepare for all feeding methods
8. Locate out yards
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# Placement of bees can be critical.

Facing southeast is said to be best.

Look for a good windbreak.

Place facing a good opening in front.

Give yourself enough room to drive behind the hives.

Keep hives about 16 inches off the ground
to keep out critters as much as possible.
This helps with ground dampness.

Keep on high ground away from creeks or running water. In high risk areas for BEARS they will follow a creek or river.

# Questions?

# Re-Queening a hive.

Establish early the need to replace a failing queen or lost queen. If a colony is judged to be mean do not always assume it is the queen.

1. Check to see if the hive is in need of food.

2. Check to see if the hive is over crowded. Some breeds of queens and bees will continue to lay brood and not swarm right away. They get irritated and become mean.

3. Check for mites loads or hive beetles. These pests can cause the bees to become mean or abscond.

4. If all else proves out to no be the case replace the queen. It will take about 3 months to completely replace the population.

**Use a re-queening screen for the best results.**

# Queen Introduction.

Several methods may be used for different needs or environments.

1. Installing a package of bees.

Most packages come with a new queen not native to the bees in the package. She has been with them for several days.

2. Making a split.

When making a split do not over crowd the split, this makes introduction difficult.

3. Replacing a lost queen.

Several scenarios requiring different approaches.

4. Replacing a queen that produces undesirable bees.

This may be the most difficult.

# Ventilation Issues

Approaches to and needs for ventilation.

Over heated hives.

Inner cover vent hole should have screen stapled over to keep out invaders, yellow jackets, beetles, wax moths and robbers.  Some use fully screened inner covers.

# Ventilation Issues

Approaches to and needs for ventilation.

Winter moisture can  be handled in several ways.  Ventilation is the most common.  Internal moisture absorption and exterior insulation to imped condensation.  Sugar boards will also absorb the moisture the bees will use to consume the sugar.

Some ventilation is needed to avoid mold and to deter the ability of the Nosema Cerana virus to strengthened and develop in conjunction with the iridescent virus.

Terms you may hear but may not concern you the first year we hope.  Most require experience to venture into or resolve.

**Never let your enthusiasm outrun you skill or knowledge.**

1. Natural or treatment free beekeeping.
2. Foundationless frames.
3. Splitting a hive.
4. Forcing the maturing of a hive.
5. Laying workers.
6. Honey bound.
7. Pollen bound.
8. Absconding hive.
9. Robbing.

Terms you may hear but may not concern you the first year we hope.  Most require experience to venture into or resolve.

**Never let your enthusiasm outrun you skill or knowledge.**

**Natural or Treatment Free Beekeeping.**

This approach is promoted by some but avoided by many.  With this approach you will loose at least 1/3 of your hives each year.  The theory is that if you do not treat the bees will get stronger and be survivor bees.  If you do not mind replacing 1/3 of your hive every year it is up to you.

Terms you may hear but may not concern you the first year we hope.  Most require experience to venture into or resolve.

**Never let your enthusiasm outrun you skill or knowledge.**

## Foundationless frames.

Foundationless frames is another concept.  It does not involve the lost hives but does involve a lot of attention to the hive.  The greatest challenge is cross combing and extensive time to get the frames drawn out.  This process can be very time consuming and great frustration.  The comb is weak and requires cross wires to hold it in place at the best.  It might take a whole spring and summer to get the boxes drawn out.  It has the challenge in inspection that the comb may break out of the frame and they have to start over.

Terms you may hear but may not concern you the first year we hope.  Most require experience to venture into or resolve.

**Never let your enthusiasm outrun you skill or knowledge.**

## Splitting a hive.

When a colony becomes over crowded and has a great chance of swarming it is best to head off a problem and turn it into an opportunity.  This is a very involved and thought provoking venture.  There are several ways to split a hive some involve making the split from a fast expanding colony the other is fixing a costly problem in the making.

**Never split a hive until you have acquired a new queen for the split.**

Move the split at least 3 miles away to avoid drifting.

Terms you may hear but may not concern you the first year we hope.  Most require experience to venture into or resolve.

**Never let your enthusiasm outrun you skill or knowledge.**

**Forcing the maturing of a hive.**

An experienced beekeeper can force the maturing of a hive with frame manipulation or even double brood and checkerboarding both boxes.  These should only be approached by the experienced or with an assisting veteran beekeeper.  In forcing the hive to mature you can make additional splits to increase your yard.

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## Laying workers.

When a colony goes queenless and is queenless for a long period of time worker bees who are able to lay eggs will take over.  All bees but the drone can lay eggs but they are not fertilized and will only make drones.  The hive will die. Installing a new queen is almost impossible.

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**Honey bound/Pollen bound.**

A colony can and will become bound up for several reasons.  The queen may be falling behind or failing.  Over feeding can bring the same results.  With a colony that has superseded the failing queen the bees can get ahead of her waiting for her to start laying.  The queen takes 16 days to hatch and 10 or 15 days to mate and start laying.  That is a as much as 31 days of lost brood production, but the bees are still bring in nectar and pollen.  Good hive inspection and observation is important.

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## Absconding hive.

A hive that has absconded or vacated can involve several influences.  The hive can be infested with one pest or another or several.  The hive becomes an undesirable place to live so they leave.  Sometimes it may involve swarming to the point that no one is left.  Good hive inspection and treatments can help to minimize a hive from being lost.  Sometimes it happens anyway for some unknown reason.  **Bees way.**

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## Robbing.

In the fall of the year during a dearth of nectar bees will rob a weaker hive also Yellow Jackets and Hornets will devastate or destroy a colony.

Yard feeding or selective hive feeding especially when using Honey B-Healthy can bring on robbing.  This is more prevalent with a yard with many hives but can happen with 2 hives.  If you feed one directly feed them all.

Honey collection for extraction and leaving hives open while taking off the honey can bring robbers.  This is again in a multi hive yard.

# Questions?

# Detection of hive pest or adverse conditions.

Detection in most if not all come with regular hive inspections and good notes.

Sugar shakes or alcohol wash can be done to test for mite levels.

Condition of bee strength, too strong or weakened.

Quality and presence of the queen is critical to the hives success or failure.

Physical observation of the presence of a pest can help in its early eradication or control.

# Brood pattern


Brood or lack thereof can tell you a lot about the condition  and health of your hive.  A lost queen can cost you the hive if not caught soon enough.

# Brood pattern

A poor brood pattern (shotgun brood) indicates a failing queen is present and needs to be replaced. Most queens last about 1.5 to 2 years if not superseded by the colony.

# Brood pattern

Brood appearance or condition of brood can signify disease which will require immediate attention.

Keeping an eye on this tell-tell sign this is essential to maintaining a health hive.

# Brood pattern

Disease present in the hive my be seen in capped brood with holes in caps or dead brood in cells.  This can be a very serious condition and requires an inspector or very experienced keeper to check and advise what action should be taken.

# Overcrowding

Too many bees in a small space can be dangerous to the survival of you hive.

If they run out of room they will swarm.  A swarming frenzy can completely empty a hive costing you money and a neighbor (soon to be former friend) a headache.

## A COMPARISON OF SYMPTOMS OF VARIOUS BROOD DISEASES OF HONEY BEES

| Symptom | American foulbrood | European foulbrood | Sacbrood | Chalkbrood |
|---|---|---|---|---|
| **Appearance of brood comb** | Sealed brood. Discolored, sunken, or punctured cappings. | Unsealed brood. Some sealed brood in advanced cases with discolored, sunken or punctured cappings. | Sealed brood. Scattered cells with punctured cappings. | Sealed and unsealed brood. Affected larvae usually on outer fringes. |
| **Age of dead brood** | Usually older sealed larvae or young pupae. Upright in cells. | Usually young unsealed larvae; occasionally older sealed larvae. Typically in coiled stage. | Usually older sealed larvae; occasionally young unsealed larvae. Upright in cells. | Usually older larvae, Upright in cells. |
| **Color of dead brood** | Dull white, becoming light brown, coffee brown to dark brown, or almost black. | Dull white, becoming yellowish white to brown, dark brown, or almost black. | Grayish or straw-colored becoming brown, grayish black, or black; head end darker. | Chalk white. Some times mottled with black spots. |
| **Consistency of dead brood** | Soft, becoming sticky to ropy. | Watery; rarely sticky or ropy. Granular. | Watery and granular; tough skin forms a sac. | Variable, watery and granular |
| **Odor of dead brood** | Slight to pronounced characteristic odor of decay. | Slightly to penetratingly sour. | None to slightly sour. | Slight non-objectionable. |
| **Scale characteristic** | Uniformly lies flat on lower side of cell. Adheres tightly to cell wall. Fine, threadlike tongue of dead pupae may be present. Head lies flat. Black in color. | Usually twisted in cell. Does not adhere tightly to cell wall. Rubbery. Black in color. | Head prominently curled towards center of cell. Does not adhere tightly to cell wall. Rough texture. Brittle. Black in color. | Does not adhere to cell wall. Brittle chalky white to black in color. |

*From USDA*

# Brood Diseases (Viruses)

**American Foulbrood:** Deadly, in most if not all cases non-treatable. Burn the bees and all equipment involved.

**European Foulbrood:** Treatable with antibiotics not usually fatal but is destructive.

**Nosema Cerana:** Treatable in a prophylactic treatment schedule. Can be fatal . A silent killer. Works like constipation.

**Nosema Apis:** Treatable with a nectar flow or light feeding . Generally appears as Diarrhea.

**Chalkbrood:** Not treatable but can be overcome in a strong colony with a young queen. Looks similar to AFB but not ropy brood.

**Sacbrood:** Common but not fatal. Re-queen and add brood and bees from another colony to strengthen the colony.

# Treatments

## Varroa Mites

Api-Life VAR (**74% thymol oil**, also contains eucalyptol, menthol, and camphor.)

Apiguard (A slow release **Thymol gel)** Temperature sensitive.

Mite Away Quick Strips (**48.4% Formic Acid**) Temperature sensitive.

Apistan (**Fluvalinate**) Not very effective.

Apivar (**Amitraz 12.5 %)** Very effective and easy to apply.

Oxalic Acid (Dribble or Vapor) **Effective, but extreme caution must be used.**

## Diseases

Fumigilin – B (Nosema Cerana and Nosema Apis)

## Hive Beetles

Beetle Blaster, Oil filled bottom board traps. (Trap to catch beetles)

Checkmite Plus (**Coumaphos)** fairly harsh chemical.

## Pests

Para – Moth (**100% Para-dichiorobenzene)** Wax Moths deterrent in stored equipment.

# Treatments why and how.

- Always follow manufacturers directions.  If left in too long it might have an adverse effect.
- Medications have different active ingredients and work in different ways to control the pest and/or disease.
- Using different products on a rotational basis may be effective in reducing resistance.

# What is a Hive Beetle


Adults and larvae of the small hive beetle are found in active bee hives and stored bee equipment where they feed on honey and pollen. Adults are broad, flattened beetles about 5.7 mm (¼ inch) long, 3.2 mm wide and dark brown to nearly black in color

# Honey removal and extraction.

Old timer beekeepers used to use the term to rob the hives.  When you put supers on a hive you collect the excess honey produced.  If you do not collect it, it is lost.  The bees will only put up what they have room for.

I do not rob mine.  I do collect RENT and UPKEEP charges.

Some keepers use escape boards requiring the lifting of the supers and placing a special designed board below that allow the bees to pass out of the super into the hive below but can not return.

Other keepers use  a product known as Bee-Go.  It smells very bad and runs the bee down out of the supers allowing their removal quicker.

# Honey removal and extraction.

Some keepers use smoke and a leaf blower to drive the bees out.  A bee brush to brush the bees off the frames is slow and sometimes a fight.

Never leave open supers of honey you extracted for the bees to repopulate.

Do not ever extract honey outside always do indoors where the bees can not find the honey.  If you do extractions outside you may have 60,000 visitors willing to fight you for the honey.

# Honey removal and extraction.

Extraction may be done several ways.

Hand squeeze.

Mechanical using a hot knife to open the cells, a scratcher to open the cells and place into a rotary extractor.

Specialty supers such as Ross Frames.  Requires much experience.

# Honey removal and extraction.

That first jar of honey will be the best honey you have ever tasted.  Share with friends and family and sell some if you can to offset the costs.

Save a jar for the fair.

# Winter Hive preparation.

Feed, feed, feed the survival of your bees depend upon it. There are some emergency options but hive weight based on onboard honey supplies is essential.  Some treatments can be applied with food to be consumed during the winter.

Remove all excess equipment.  Confining the colony gives them less space to heat and less space for pest and invaders.

Mouse guards are useful and my save your equipment.

# Questions?

Thank you for your interest in Beekeeping. Wishing you good luck and best wishes in this new venture.

Do not forget to join a local Beekeepers Association.