

# Beekeeping Ain't That Hard!

Varroa control for the busy beekeeper



# Who am I?



- Just a science / engineering / math dork enjoying the study of beekeeping and nature.



- Currently have a few apiaries with quite a lot of hives, with one of the apiaries dedicated to the science of bees.
  - Perform science projects around confirming or busting many of the beekeeping myths.
  - Produce an excess of colonies, honey, pollen, and wax each year that is difficult to get rid of.

# Why am I hearing that Beekeeping is Difficult?



- Why are there 50% losses (or more) every year from hobbyists?



- I got interested in why others have so much difficulty in keeping bees and I don't.
  - Never lost a hive in winter
  - Hives don't swarm unless I want them to
  - Varroa mites are kept under control

# Are New Beekeepers the problem?

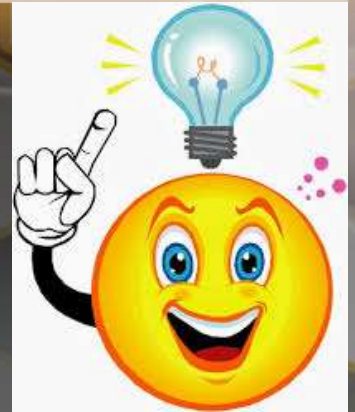


- New beekeepers seem to have high losses
  - Sort of makes sense.....poor schooling or none at all
    - Are the classes they take no good?
    - Are there some other pressures preventing their success?
- But some 3-5 year (intermediate) beekeepers also have high losses
  - One would think that they would have learned from their mistakes and brought losses down
  - Why are some intermediate beekeepers having success and others are not?
- Every year in NE Ohio, probably 400-500 people will attend a new beekeeping class.
  - We should have beekeepers everywhere!
  - But there are no more or fewer beekeepers every year.

# Let's break down the problem.....



- Remember I told you I'm an engineer?
  - Not only electrical but process also.
  - Got paid way too much to break down corporate problems into smaller, manageable issues that could be fixed separately.
  - Worked with some of my former corporate colleges to look at this beekeeping problem



# Poor Training.....



- Classes given by well meaning groups that completely inundate new beekeepers with more information than they need their first few years.
  - Guilty of this myself, big time!
  - Too much information to new beekeepers that they don't need their first few years
    - Biology of a bee?
    - Varroa mite anatomy
    - Winter survival in a spring class – (hold another class closer to winter)
    - Alcohol wash or sugar roll testing – Too complicated for new beekeepers.
      - Requires too high of a skill level with bee handling.
      - Can be a hectic process and make the new beekeeper nervous.

# Other Distractions.....



- Social media
  - Lot's of opinions and "old beekeeper's advice."
  - Plenty of articles on beekeeping that present themselves as factual but are not backed by science.
- Personalities that promote themselves as experts but aren't.
  - Some who are too wrapped up in beekeeping as their own identity and think they gotta be the most influential person in the room.....(narcissistic personalities.)
  - Give out bad advice
  - "It worked for me, so you should do it too."
  - Advice that is way above the new beekeeper's abilities.
- New beekeepers attending advanced classes that are way above their skill level
  - Nice to learn, but new beekeepers shouldn't stray from the plan.
- The distractions on this slide are a real problem, so we should try to promote that they be ignored by new beekeepers.



# Persuade New Beekeepers to Stick to the Plan



- Train new beekeepers to a simplified system that they can use for a few years
  - Keep them focused on not veering from the plan. Difficult!
  - Build their confidence
  - Grow their basic skills
  - Continue their education in stages.
- Clubs / mentors need to constantly drill into their new beekeepers to stick to the plan.
  - Clubs / mentors need to ensure that presentations that are maybe too advanced for new beekeepers be stated as such. “This is a great technique for....., but new beekeepers need to stick to the plan!”



# That “Plan” has been developed already! Twice!



- Lorain County Beekeepers Association
- Amish Program – Quick synopsis
  - 6 years ago it was noticed that Amish had 70%-90 winter death rates
  - No varroa program
  - Recognized and developed a program in collaboration with Amish leaders to teach about varroa.
    - Set up Demo hives for them to observe 100% survival rates
    - Then a series of meetings to persuade and teach about varroa control
    - Now, survival rates amongst those who practice varroa management are 70%-90%
    - Amish are now having their own meeting with their own experts to spread the word.....
      - New Amish beekeeper survival rates are going down. WRONG DIRECTION!
      - Same phenomena as English new beekeepers, too many tricks that don't always work and too complicated.
    - Now, a program to teach new Amish beekeepers is being developed.
      - Simplified varroa control.....



# Does Anyone Need Persuaded to Control, Varroa?



- Varroa Destructor – The Bane of Beekeepers



- I bury my head into your bees and suck out their life
- I give them diseases!
- Control me, or your bees WILL die a horrible.....slow .....death.

# Not Controlling Varroa is Cruel!



- Why do I keep having discussions about treating bees, and people worrying about the chemicals they might have to use to treat?
- Why?
- So.....you're OK with a varroa having their head buried into your bees sucking the life out of them while transmitting disease?
  - If so, you're torturing your "girls" and should set them afire to quickly end their misery !

# Who Should Use This Varroa Program



- New beekeepers absolutely!
- Some intermediate and “seasoned” beekeepers
  - Those who don’t have time for regular observation of hives to decide on a treatment plan.
  - Those who can’t master proper mite level testing methods (Alcohol wash)
  - Those who can’t stomach sacrificing 300 bees for an alcohol wash
  - Those who can’t seem to stay away from poor advice from non-“experts.”
- Who shouldn’t use this program?
  - Those who are very adept and disciplined to properly monitor mite levels with an alcohol wash.
    - There are not a lot of these people.
- Do I use this program – Yes and No
  - I have thoroughly vetted this program on test hives and have compared the results against my own system.
  - I found it to be extremely effective !

# Let's Go Through The Program Month-by-Month



- April

- What's happening?

- An over wintered hive or new Nuc has brood present
      - Brood is building and so are mites.....more brood, better ability for mites to breed.
      - Treat with oxalic acid (OA) 3 times, 7-10 days apart
      - Or 1 treatment of formic acid (FA) using either Formic Pro or MAQS

- A new package (End of Month)

- 1. Oxalic dribble while bees are still in the package
    - 2. Oxalic dribble AFTER installing bees into the hive
    - 3. Oxalic vaporizing package before installing bees into the hive
    - 4. Oxalic vaporizing AFTER installing bees into the hive
    - All achieve the same result of cleaning up any residual mites



- Notes for Each Month:

- Treatment recommendations are for the first week of each month.
  - Clean mite board BEFORE each treatment to see effectivity of treatment.

# Let's Go Through The Program Month-by-Month



- May

- What's happening?
  - Brood is building rapidly
  - Dandelion and other spring nectar sources are happening!
  - Hives are growing!!!!!!
- Mite treatment – None needed unless mites signs are noticed (Unlikely)
  - Mites on bees
  - Mites seen on drone comb

# Let's Go Through The Program Month-by-Month



- June

- What's happening?
  - Brood is REALLY building rapidly
  - Black Locust / Bass Wood are happening!
  - Hives are growing!!!!!!
  
- Mite treatment – Touchup on mite levels only
  - Single OA treatment – Vaporization or dribble
  
- Monitor mite drops after treatment. If they seem excessive, then do 2 more OA treatments a week apart or get advice from a REAL expert.

# Let's Go Through The Program Month-by-Month



- July

- What's happening?
  - Brood is starting to slow down
  - Nectar sources are starting to become less
  - Should have a big colony by now
  
- Mite treatment – None needed unless mites signs are noticed (Unlikely)
  - Mites on bees
  - Mites seen on drone comb



# Let's Go Through The Program Month-by-Month



- August

- What's happening?
  - Brood is still slow, but queen is laying the bees, that will take of raising the winter bees.
  - Most important stage of winter preparation is now!!!!
  - Must get colony as mite free and disease free as possible
  - Goldenrod and aster will start by the end of the month
  
- Mite treatment – Knock the snot outa the varroa!
  - Formic Acid (FA) is best now with brood present. Should kill almost all mites in the hive
  - Find 3-5 days in a row when temperatures aren't expected to exceed 85F for treating with FA

# Let's Go Through The Program Month-by-Month



- September

- What's happening?
  - Brood is starting increase!
  - Goldenrod and aster nectar and pollen should be coming in big time!
  - Should have a big colony by now
  
- Mite treatment – None needed unless mites signs are noticed (Unlikely)
  - Mites on bees
  - Mites seen on drone comb

# Let's Go Through The Program Month-by-Month



- October

- What's happening?
  - Brood is slowing down. Winter bees are emerging
  - Goldenrod and aster are slowing down
  
- Mite treatment – Knock the snot out the varroa again!
  - Formic Acid (FA) is best now with brood present. Should kill almost all mites in the hive
  - Find 3-5 days in a row when temperatures aren't expected to exceed 85F for treating with FA

# Let's Go Through The Program Month-by-Month



- November

- What's happening?
  - Brood is almost stopped
  - Bees are arranging the hive for their winter clustering
- Mite treatment – None needed unless mites signs are noticed (Unlikely)

# Let's Go Through The Program Month-by-Month



- December

- What's happening?
  - Brood is stopped
  - Bees are pretty much in winter mode
  
- Mite treatment – Touchup on mite levels only
  - Single OA treatment – Vaporization or dribble

# Let's Go Through The Program Month-by-Month



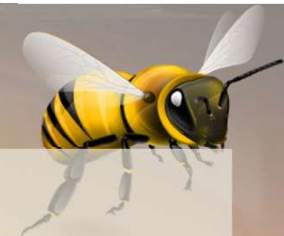
- January - February
  - What's happening?
    - Bees are nicely clustered
    - Occasional above 45F day with bees doing some cleansing flights
  - Mite treatment – Touchup on mite levels only to bring the bees clean into spring
    - Single OA treatment – Vaporization or dribble

# Month-Month Summary



- April – FA if it's an over wintered hive or Nuc, OA if it's a package
- May – None needed unless mite signs are noticed
- June – OA touchup treatment
- July - None needed unless mite signs are noticed
- August – FA treatment – Very important for winter survival !
- September - None needed unless mite signs are noticed
- October - FA treatment
- November - None needed unless mite signs are noticed
- December - OA touchup treatment
- January / February - OA touchup treatment on a warmer day.

# Things That Can Go Wrong.....



- OA vaporization is not done correctly.
  - Not proper dosage
  - Too much ventilation
- OA dribble is not done correctly
  - Incorrect recipe.
    - Mix 1.5 cups warm (150F) water – Distilled is best, but no hard water
    - Mix in 2.5 tablespoons of OA crystal (Cheap! 99.9% pure on Amazon for \$10)
    - Add 2 cups sugar and shake until mixed.
  - Bees not smoked down between frames.
  - Not doing both brood chambers
- Formic Acid
  - Using expired FA strips (Deadly to bees)
  - Not following the directions!!! Watch 2 minute video and do it exactly.
  - Don't rely on advice from others...Watch the damn video!



# Things That Can Go Wrong.....



- Your bees become strong and tough
  - They rob a neighbor's hive that is filthy with varroa and disease
  - Excessive mites on the mite board are a sign.
  - May need to do an immediate FA treatment or 3 treatments a week apart of OA.



# Things That Can Go Wrong.....



- You get distracted.....
  - Listening to social media
  - Takin' contrary advice from an "expert."
  - Your own laziness misses a treatment.
  - Didn't follow the plan !

# Questions?



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