



Photo from wildflowermeadows.com

FALL MANAGEMENT (1:45-2:45 PM)

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TALK CONTENTS

- Define “Management” and “Fall”
- Goals – Healthy, Happy Well-fed bees
 - Healthy – Inspection
 - Healthy – Mite counts
 - Happy – protected
 - Well-fed

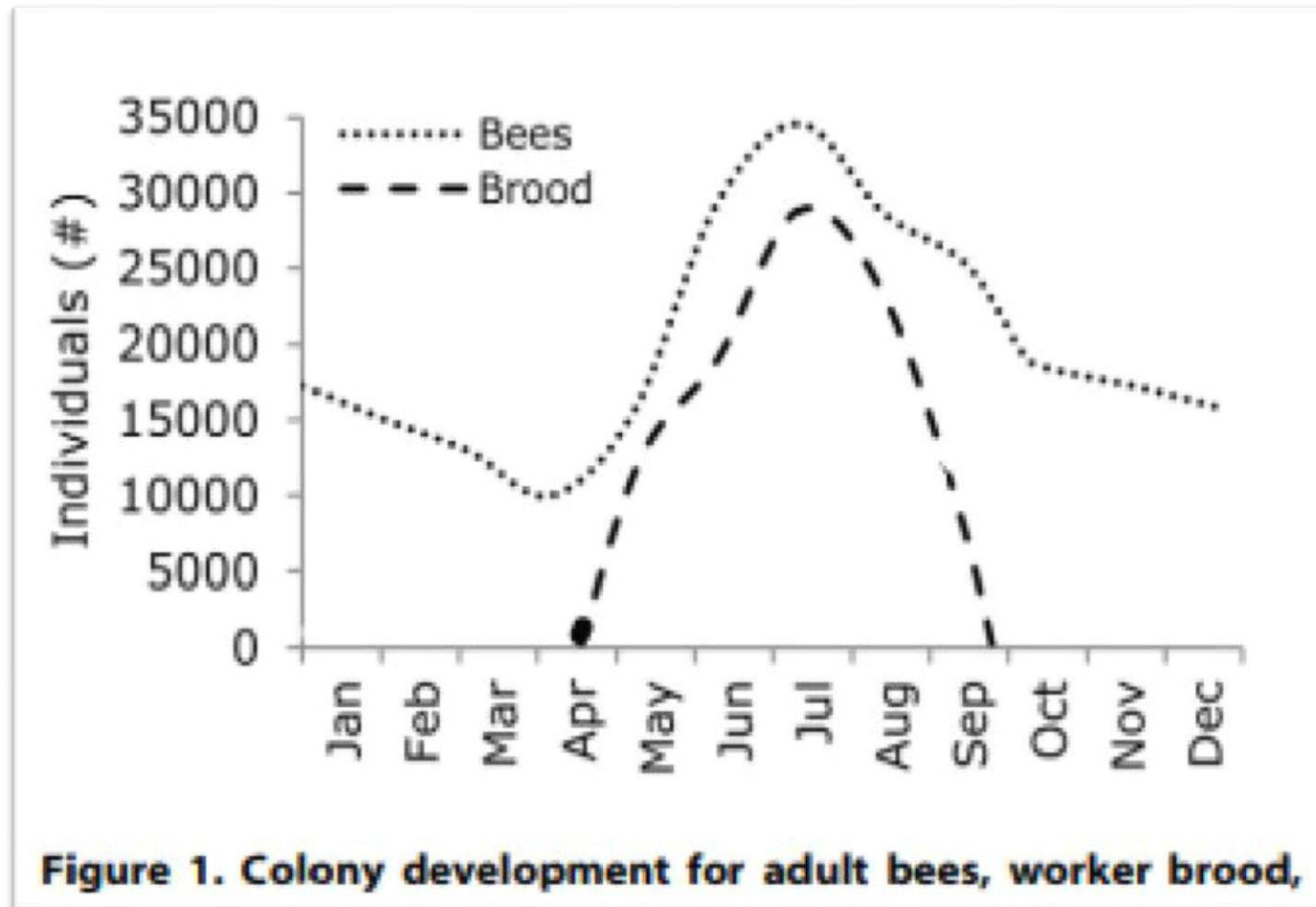
MY GUIDE TO MANAGING MY BEES -

- Help the bees help themselves; listen and watch what they are telling you they need.
- Anticipate what the bees will be doing in the next few weeks and help them to do that.



FALL: SEPTEMBER – DECEMBER THE START OF THE NEW YEAR FOR A HONEY BEE COLONY

- Starts after the nectar flow stops – July / August in Maryland
- Bringing in less nectar and pollen;
- Bringing in more propolis
- Ripen and store honey
- Protect honey stores
- Raise the worker bee population that will care for the queen through the winter;
- Reduce / Eliminate the drones



FALL MANAGEMENT GOAL

- Healthy
- Happy
- Well-fed bees



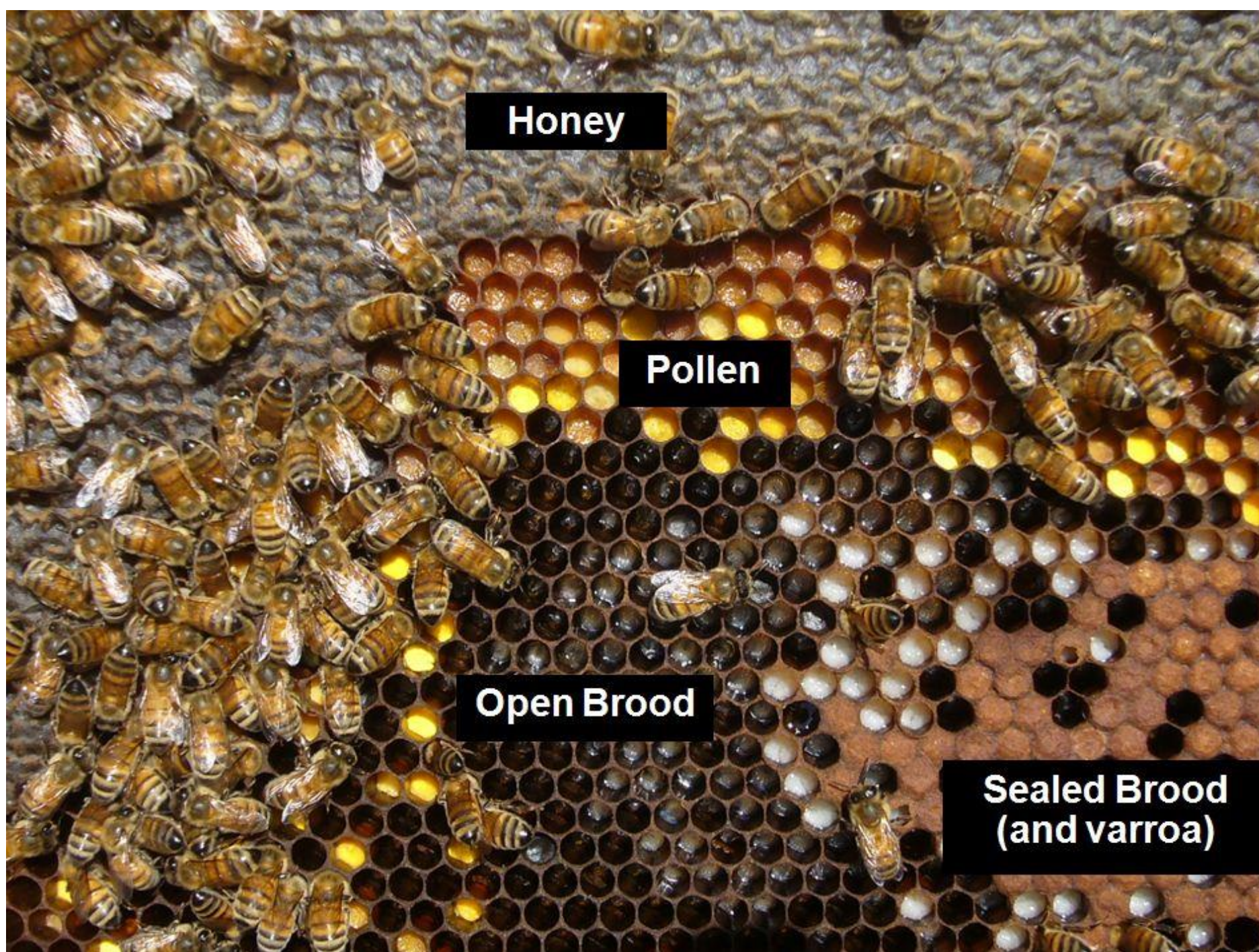
HEALTHY - INSPECT YOUR BEES

What the bees are doing

- Raising brood that will become the bees that will overwinter and keep the queen alive through the winter
- Queen laying fewer eggs; eventually stops
- Blocking Drones from returning to or entering the hive
- When the temperature drops to 57 inside the hive the bees begin to cluster around the queen and keep the eggs, larva and pupae warm (93°F)

What the beekeeper is doing

- Take notes
- Inspect the colony for signs of a productive queen
 - Eggs and larva
 - Open and Capped brood
 - If you must requeen...do it early in the fall.
- Watch the returning bees, note who enters
 - Prevent robbing; Reduce the entrance
 - Drones
 - Mouse guards



Honey

Pollen

Open Brood

**Sealed Brood
(and varroa)**

<http://scientificbeekeeping.com/first-year-care-for-your-nuc/>



<http://blueboxhoney.com/bee-health/>

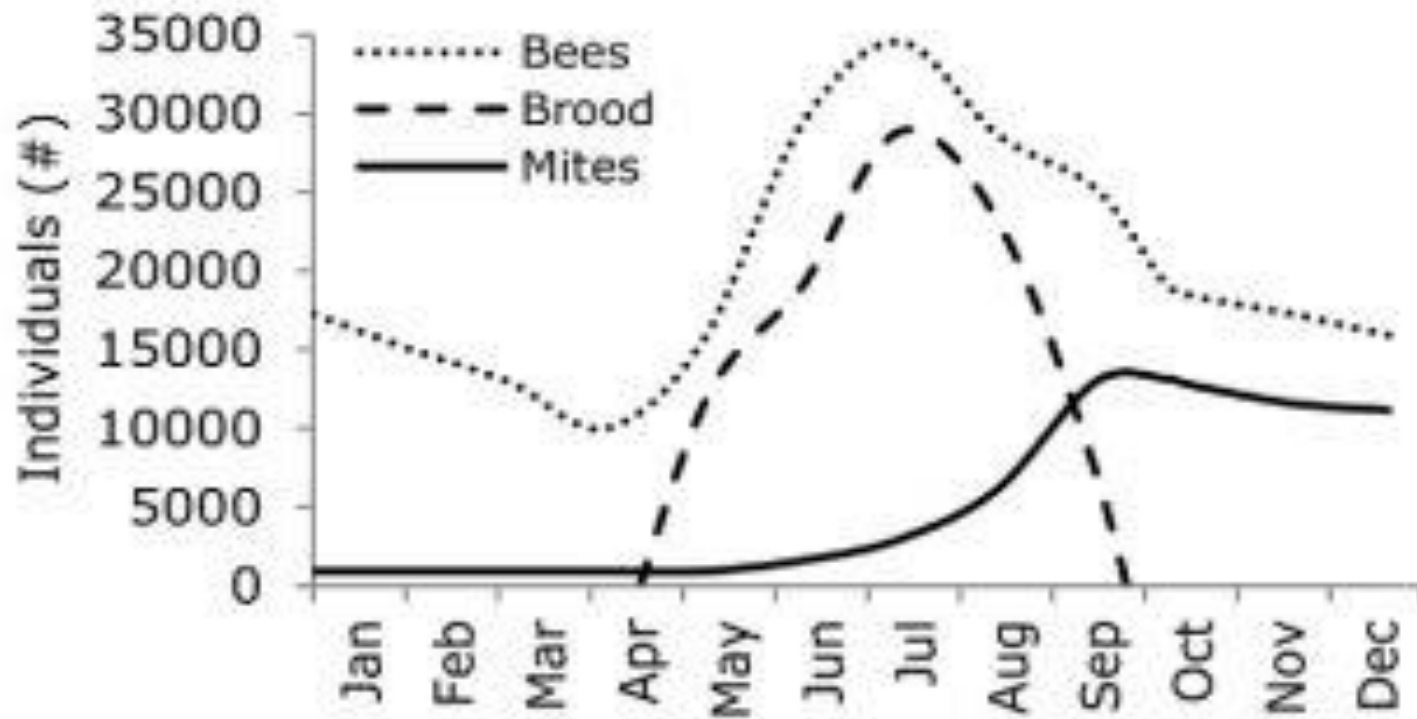


Figure 1. Colony development for adult bees, worker brood, and *Varroa destructor* mites. The daily number of individual adult bees (dotted line) and worker brood (striped line) was modelled over one year. The number of mites (solid line) was modelled as being the second year of mite infestation with a starting population of 100 mites in the first year. Figure was redrawn from Martin [9].
doi:10.1371/journal.pone.0036285.g001

MONITOR THE MITES



https://en.wikipedia.org/wiki/Varroa_destructor

Understanding the life cycle of the Varroa mite

1

The queen is the largest in the beehive. She lays up to 2,000 eggs per day in the brood cells.

2

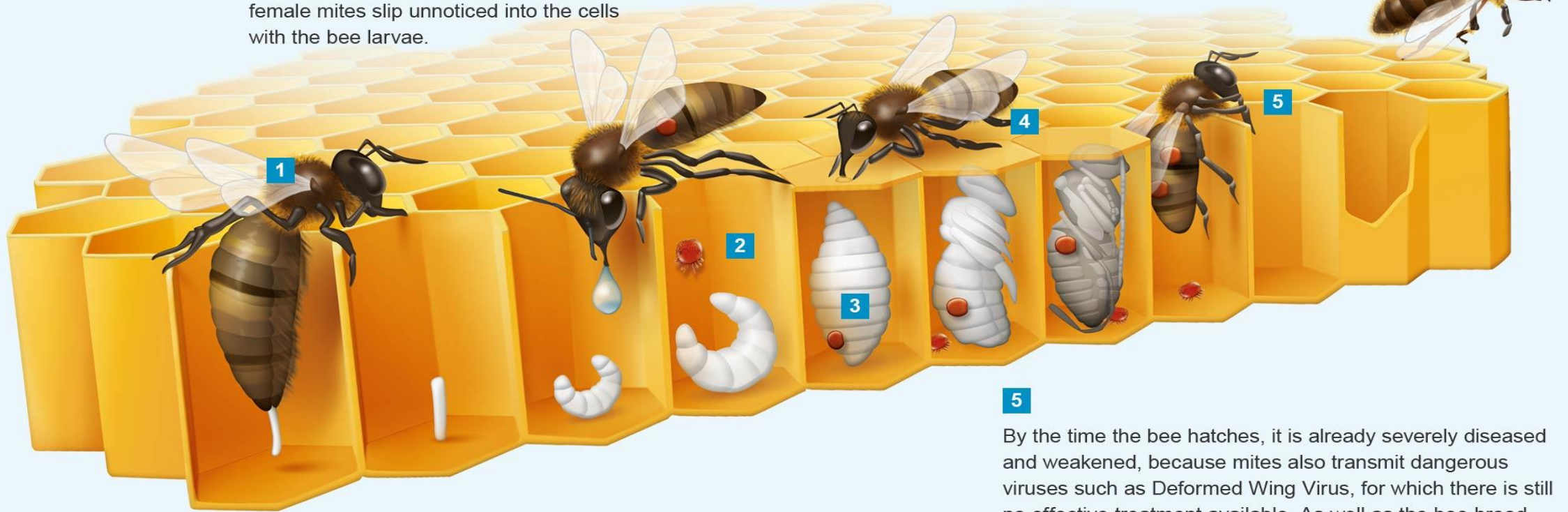
Worker bees often carry Varroa mites with them into the hive. Despite being deaf and blind, these mites can find their ways to the brood chambers thanks to their olfactory sense and numerous fine sensory hairs on the legs. Shortly before the workers cap the brood cells, the female mites slip unnoticed into the cells with the bee larvae.

3

A few days later, the mites lay the first eggs. The first to hatch is always a male. It is followed by up to five more eggs from which female mites hatch.

4

To feed its offspring, the mother mite pierces a feeding hole in the bee pupa which has developed in the meantime. Before the bee hatches, the mites mate again – during the bee season, the Varroa population in a hive can double every four weeks.

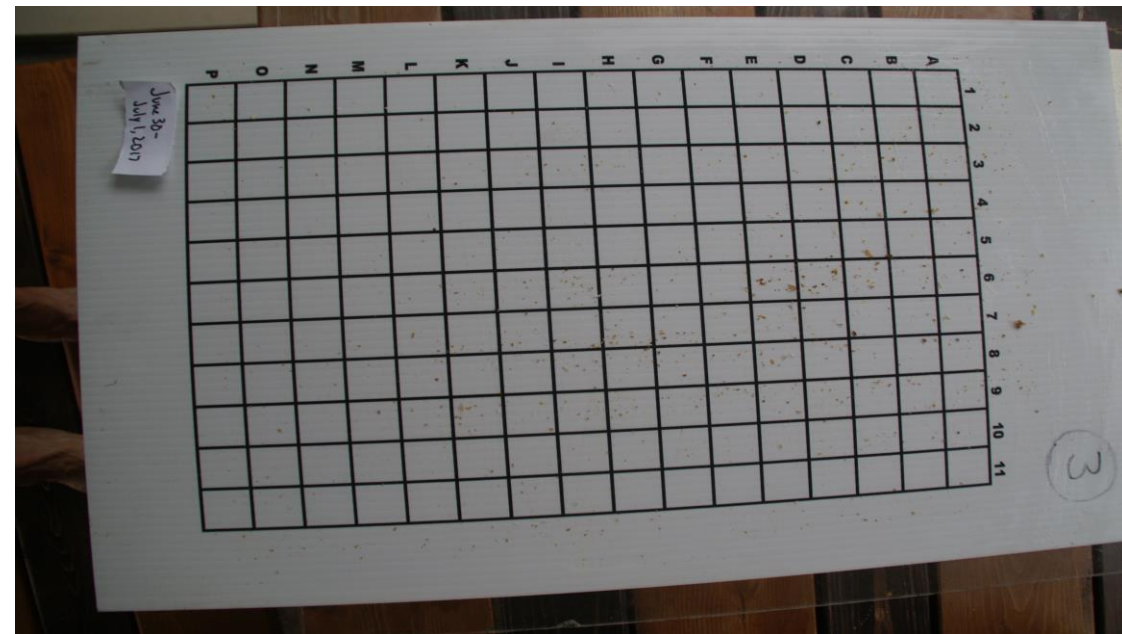


5

By the time the bee hatches, it is already severely diseased and weakened, because mites also transmit dangerous viruses such as Deformed Wing Virus, for which there is still no effective treatment available. As well as the bee brood, Varroa can also infest adult bees.

HEALTHY – DO A MITE COUNT

- Alcohol roll
- Sugar shake
- Sticky board





HONEY BEE
HEALTH
COALITION

The
Situation

About the
Coalition

How We
Help Bees

How You Can
Help Bees

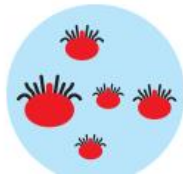
Coalition
Updates

TOOLS FOR VARROA MANAGEMENT

FREE VARROA RESOURCES



Below you can access the
Tools for Varroa Management
Guide and Watch the
Demonstration Videos



Access the Coalition's Varroa
Management Decision Tool



Host an Evening Varroa Bee
Club Program



The Honey Bee Health Coalition has

[HOME](#)[ABOUT US](#)[PROGRAMS](#)[RESEARCH](#)[DONATE](#)[BLOG](#)[CONTACT](#)

Sentinel Apiaries

We have successfully completed our fourth year of the Sentinel Apiary Program. Click to read about our results!
The 2019 Sentinel Apiary Program is underway. Click the Blue Box below to join! Become a citizen scientist and help revolutionize beekeeping!

[Full Story »](#)



National Management Results App

Click Here! Explore our National Management Survey results with ease.



Find APHIS Survey Reports!

View state specific APHIS NHBS health data.



Sentinel Apiary Program

Join Now! Applications are available for the 2019 Sentinel Apiary Program



Colony Loss Results Map

Dynamically find state loss results and historic loss data.



Emergency Response Kit

Emergency Response Kits are designed to rule-out causes of colony loss.

www.beeinformed.org

Name of Treatment	What is it?	Application	Treatment Time	Is it temperature dependent?	Can it be used during the honey flow?
Apivar	Contact based varroa mite treatment with slow release Amitraz as active ingredient.	Hung in brood chamber(s), 1 strip for every 5 frames of bees.	One treatment for 42 days, then remove.	No, but bees need to be active.	No, but supers may be installed 2 weeks after treatment is finished.
HopGuard II	Contact based varroa mite treatment with potassium, hop compounds and beta acids as active ingredients.	Straddled over center frames of brood chamber(s), 1 strip for every 5 frames of bees.	One treatment for 14 days, then remove. Second treatment recommended if only product being applied.	Best not to treat bees when temperature is below 50° F (10° C) to avoid chilling bees.	Yes
CheckMite +	Contact based varroa mite treatment with Coumaphos as active ingredient.	Hung in brood chamber(s), 1 strip for every 5 frames of bees.	One treatment for 42-56 days, then remove.	No, but bees need to be active.	No, but supers may be installed 2 weeks after treatment is finished.
Apistan	Contact based varroa mite treatment with Flouvalinate as active ingredient.	Hung in brood chamber(s), 1 strip for every 5 frames of bees.	One treatment for 42-56 days, then remove.	No, but bees need to be active.	No, but supers may be installed after treatment is finished.
Formic Pro	Fumigant based varroa mite treatment with Formic Acid as active ingredient. Shelf life of 24 months.	Strips laid across top of brood chamber frames, 1 or 2 strips depending on treatment option. If only 1 brood box place on top of frames, if 2 boxes place strips on top of frames in between the 2 boxes.	One treatment of 2 strips for 14 days or two treatments of 1 strip for 10 days each.	Daytime temperatures must be between 50° F - 84° F (10° C - 29° C) when used.	Yes
MiteAway Quick Strips	Fumigant based varroa mite treatment with Formic Acid as active ingredient. Shelf life of 12 months.	Strips laid across top of brood chamber frames, 1 or 2 strips depending on treatment option. If only 1 brood box place on top of frames, if 2 boxes place strips on top of frames in between the 2 boxes.	One treatment of 2 strips for 14 days or two treatments of 1 strip for 10 days each.	Daytime temperatures must be between 50° F - 84° F (10° C - 29° C) when used.	Yes
Api Life Var	Fumigant based varroa mite treatment with Thymol as active ingredient.	Break 1 wafer into 4 equal pieces and place on top corners of hive body. Three back to back applications are necessary.	Each application should last 7-10 days. Repeat until 3 applications have been completed.	Most effective when temperature is on average 65° F (18° C).	No, but supers may be installed after treatment is finished. Do not harvest until 30 days after treatment is finished.
Oxalic Acid (Dribble/Trickle Method)	Contact based varroa mite treatment with Oxalic Acid as active ingredient.	Mix 35 grams of OA with 1 liter 1:1 sugar syrup. Apply 5-6 ml directly onto bees inbetween each frame space with syringe. Do not apply more than 50 ml per hive, regardless of size.	Treat in early spring or fall when little or no brood is present.	Apply when bees are in loose cluster 35° F - 55° F (2° C - 13° C)	No
Oxalic Acid (Vaporizer Method)	Fumigant based varroa mite treatment with Oxalic Acid as active ingredient.	Load 2 grams of OA crystals into cool vaporizer. Smoke bees up from entrance of hive sealing with vaporizer inside. Screen bottomed boards must be closed. Turn on vaporizer and apply heat until OA crystals have sublimated. Keep hive sealed 15 minutes after treatment.	Treat in early spring or fall when little or no brood is present.	Apply when bees are in loose cluster 35° F - 55° F (2° C - 13° C)	No

VARROA MITE TREATMENTS

- Know your threshold
- Plan your actions



Click image to go to Varroa Management Decision Tool

VARROA MITE TREATMENTS

- Mite count above threshold
- Brood present
- No honey supers on
- Open to synthetic and organic
- <https://honeybeehealthcoalition.org/varroatool/>

[Go back](#)

Here are your options!

CLICK ON EACH TREATMENT TO LEARN MORE

Synthetic Chemicals


- Apivar®
- Apistan®
- CheckMite+®

Essential Oils (Organic)

- Apiguard® (Thymovar®)
- Api Life Var®

Acids (Organic)

- Mite-Away Quick Strips®
- Formic Pro®
- Formic Acid 65%
- Oxalic Acid
- HopGuard II®

 **Temperature sensitive.** Make sure to read the label for the proper use of the treatment. Applying a treatment outside of the recommended temperature range may render it ineffective or cause damage to the bees.

HAPPY – PROTECT YOUR BEES

What the bees are doing

- Ripening and storing honey
- Guarding the winter stores
- Blocking drones from returning to or entering the hive
- Propolizing
- When the temperature drops to 57 inside the hive the bees begin to cluster around the queen and keep the eggs, larva and pupae warm (93°F)

What the beekeeper is doing

- Watch the returning bees,
 - Robbers
 - Drones
 - Mouse guards
- Protect from the weather
 - Ventilation
 - Wrap or insulate the hive
 - Cluster
 - Respect the propolis

ENTRANCE REDUCER



ENTRANCE REDUCER PREVENTS ROBBING

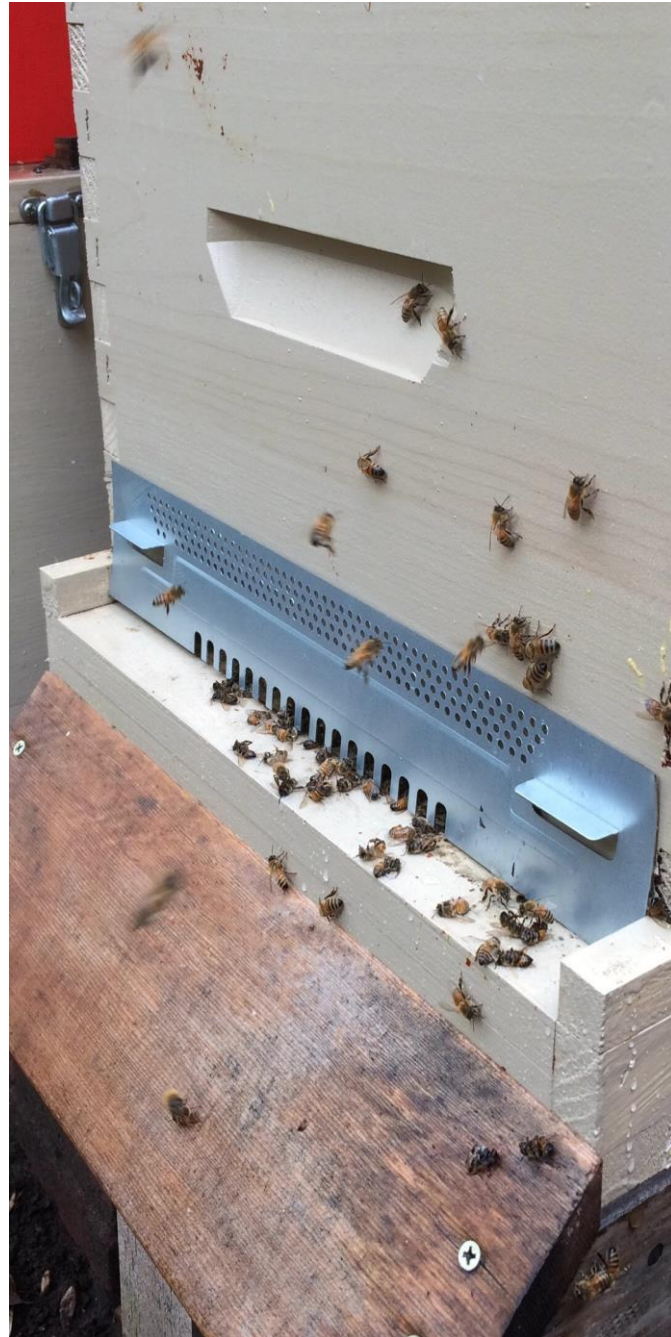


<https://www.myromanapartment.com/stop-bee-robbery-progress/>

MOUSE GUARDS



<https://brookfieldfarmhoney.wordpress.com/2013/11/04/making-mouse-guards-2013/>



<https://www.tilysnest.com/2015/12/a-mouse-in-the-beehive/>

OUSTING THE DRONES

What the bees are doing

- Workers prevent drones entering the hive and drag them from the hive – reduces the consumption of winter honey stores
 - Drones eat and mate
 - Can't sting, don't collect pollen or nectar, can't feed the brood; don't tend the queen; can't feed the larva; don't clean the cells
 - Drones starve, freeze or get eaten
- Colony will raise drones when there is ample pollen and nectar



<https://www.honeybeesuite.com/its-not-a-good-time-to-be-male/>

PROTECT FROM THE WEATHER

- Ventilation
- Wrap or insulate



<https://www.pugetsoundbees.org/got-moisture/>



CLUSTERING



RESPECT THE PROPOLIS



Resin from plants mixed with bee saliva

Antibacterial & Antifungal

WELL-FED BEES

What the bees are doing

- Ripening nectar to honey
- Creating and consuming bee bread
- Storing honey to eat during the winter

What the beekeeper is doing

- Count frames of capped honey
 - Northern climates – 60-100 pounds of honey;
- Feed the Bees
 - 2:1 syrup
 - Candyboards
 - Supplements

2 PARTS SUGAR TO 1 PART WATER = 2:1 SYRUP



Sugar Syrup Math for Backyard Beekeepers

Amount Rounded	Yield- Lbs	Yield- Cups	Sugar- Lbs	Water - Lbs	Sugar Cost [1]	% Sugar in Syrup	% Water in Syrup	Maximum capped sugar water- Lbs [2]	Estimated capped sugar water - Lbs [3]	Estimated equivalent Medium Frames	Estimated equivalent Deep frames	Estimated equivalent Wanganum top bar hive frame [4]
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1:1 Sugar syrup is 50% sugar and 50% water and is a thin syrup, designed to stimulate the queen into laying eggs and encourage workers to build comb

1 gallon 1:1	10	16.84	5	5	\$2.15	50.00%	50.00%	5.9	3.93	1.14	0.72	1.01
5 gallons 1:1	48	80.84	24	24	\$10.32	50.00%	50.00%	28.32	18.88	5.49	3.43	4.86

Amount Rounded	Yield- Lbs	Yield- Cups	Sugar- Lbs	Water - Lbs	Sugar Cost [5]	% Sugar in Syrup	% Water in Syrup	Maximum capped sugar water- Lbs [6]	Estimated capped sugar water - Lbs [7]	Estimated equivalent Medium Frames	Estimated equivalent Deep frames	Estimated equivalent Wanganum top bar hive frame [8]
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2:1 Sugar syrup is 66.6% sugar and 33.3% water and is a thick syrup, given to bees in preparation for a season without natural food

1 gallon 2:1	12	18.29	8	4	\$3.44	66.67%	33.33%	8.72	5.81	1.69	1.06	1.50
5 gallons 2:1	54	82.29	36	18	\$15.48	66.67%	33.33%	39.24	26.16	7.61	4.76	6.74

Helpful equivalents for beekeepers

2 cups water = 1 pound

2 cups white sugar = .875 pound

2 cups 1:1 Sugar Water = 1.1875 pounds

2 cups 2:1 Sugar water = 1.3125 pounds

2 cups honey = 1.5 pounds

2 cups capped sugar water = 1.5 pounds

1 medium frame = 85 square inches of honey comb (both sides)

1 deep frame = 136 square inches of honey comb (both sides)

1 square inch of honey comb = .647 ounce (weight) honey (standard 10 frames in a box)

1 medium frame = 3.45 pounds honey

1 deep frame = 5.5 pounds honey

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CANDY BOARD

Flying bees are
hungry bees!

Recipe:

10 pounds bakers sugar and

10 tablespoons of water

Knead to mix

Shape and let harden

Article and directions:

<https://www.honeybeesuite.com/no-cook-candy-board-recipe-for-feeding-winter-bees/>



TO REVIEW... FALL BEEKEEPING “TO DO” LIST

Inspect your bees

Maybe put on a mouse guard

Do a Mite Count

Take action against mites

Check honey reserves

Feed!

Maybe wrap or insulate the hives

Check that hive has ventilation

Continue to learn

Reduce the entrance;

ADDITIONAL RESOURCES

1. Ask someone at a MCBA meeting;
2. Attend the bee yard gatherings
3. Ask on the Yahoo List serve
4. Consult the honey bee health coalition website www://honeybeehealthcoalition.org
5. Consult the honey bee suite website www://honeybeesuite.org
6. Consult the Perfect Bee website www://perfetbee.com



Montgomery County
BEEKEEPERS
Association

