

Late Summer thru Winter Management

Presented by Judy Scher



July is the Starting Point for Next Year's Success

Beginning of Beekeeper's Fall for beekeepers west
of the Cascades



JULY						
S	M	T	W	T	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

Three Management Stages

- After Supers Off – July / August
- Fall – September - November
- Winter – Thanksgiving - February

Late Summer - Now

- Post extraction
- Smoke and Heat
- Treatment for Varroa Mites
- Managing Yellowjackets and Robber Bees

Care of Honey Supers and Frames

- All honey supers off by July 15
- *Remove Queen Excluder!*
- Treat frames for wax moths



Wax Moth Damage

Avoid This!



Wax Moth Treatment

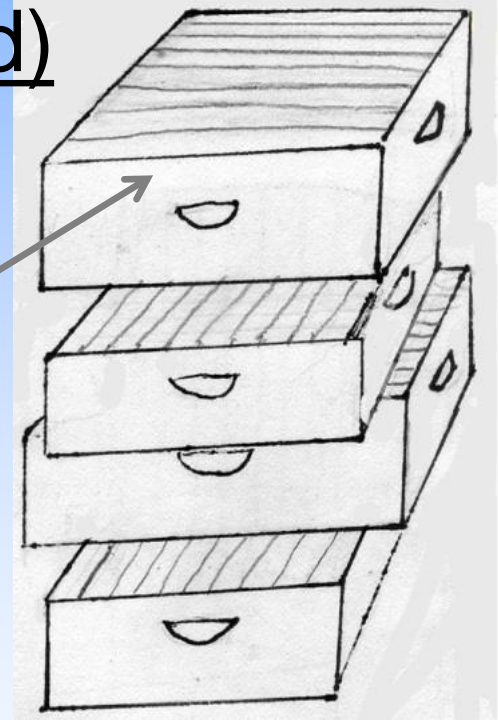
Non-Chemical Treatment (preferred)

❖ Freeze frames 48 hours

- Store frames in staggered boxes where sunlight reaches the frames.

OR

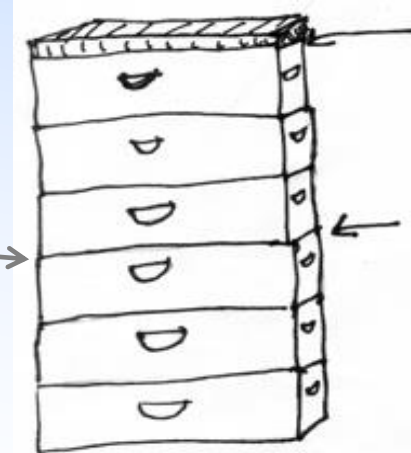
- Store in tightly closed plastic bags right after taking frames from the freezer.



Wax Moth Treatment

Chemical Treatment

- Stack boxes with frames and expose to Paramoth (not moth balls!) every 3rd box.



Intense Heat

Bees:

- Place water close to bees in shade
- Bees will place droplets in hive and fan to evaporate water
- Bearding on outside of hive is normal
- Use a ventilation box (with bottom shim) under top cover



Intense Heat

Beekeepers – Avoid Heat Exhaustion:

- Hydrate!!
- Keep cold water or electrolytes nearby (like Gatorade or Pedialyte)
- Get to a cool place if you are flushed, dizzy, have rapid heart rate. Don't continue to work the hive.

Smoke from Forest Fires



Photo from Eugene Register Guard

Smoke from Forest Fires

Heavy Smoke Stresses Bees:

- Reduced Foraging
No polarized light, bees can't orient
- Consume winter honey stores

Management:

- Do not inspect
- **Feed** heavy syrup (2:1 sugar water)
- Place water close to bees or in Boardman feeder


Varroa mites

- ❖ **DO MITE COUNT regularly!**
- ❖ NOW (Bee population decrease) threshold:
 - sugar or alcohol shake $< 2\%$ (6 mites/300 bees)
- ❖ First medication must be on as soon as threshold is detected.

Why Did My Bees Die?

LCBAOR.ORG Main Page

IMPORTANT VARROA INFORMATION from Honey Bee Health Coalition

 [Tools For Varroa Management](#) - (p. 11 contains Videos on Treatment and Management)

[Varroa Management Decision Tool](#) -when and how to treat for Varroa

[Best Management Practices for Bee Health](#) - click on download the .pdf

[Video - Why Did My Bees Die?](#) Informative video from Michagan State University

Varroa mites

Varroa Mite Treatment Threshold

X

In order to determine your mite level, you need to sample your colonies on a regular basis using the alcohol wash or sugar shake method. See the *Tools for Varroa Management Guide* in the Resources section for the sampling process.

Use the chart below to determine if you should treat or whether you are at an acceptable mite level.

Table 1: Treatment Thresholds by Phase;(%=Number of mites/100 adult bees)

Colony Phase	Acceptable Further control not needed	Danger Control promptly
Dormant with brood	<1%	>2%
Dormant without brood	<1%	>3%
Population Increase	<1%	>2-3%
Peak Population	<2%	>3%
Population Decrease	<2%	>2-3%

Consequence Of NOT Treating

Virus vectored by varroa will quickly diminish the hive population



Deformed Wing Virus is most common varroa vectored virus

Consequence Of NOT Treating

Bees with virus infection can not raise “fat” winter bees

Winter bees make and store protein, fat, carbs and produce Vitellogenin in fat bodies

Vitellogenin allows for longer life - Winter bees live up to 6 months

Winter Bees produce the vitellogenin for feeding spring brood without fresh pollen!



Photo by Scientificbeekeeping.com

Medication July/August

❖ “Natural” – Thymol Products

- Apiguard
59°F – 105°F



- Api Life Var
65°F – 85°F



❖ “Natural” – Acid Products

- Oxalic Acid

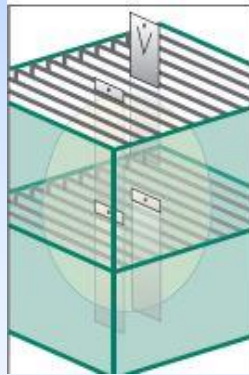
Note: Do not use Formic Acid treatment - will kill uncapped brood.
Bees need this brood for winter!

Refer to “ Tools For Varroa Management” - Honey Bee Coalition

Medication

July/August

- ❖ Synthetic – ApiVar
 - 42 – 56 days



Note: Varroa is becoming desensitized to Apivar

Yellow Jackets and Robber Bees

You've Been Robbed!!!!!!



Chewed cells in honey frames

Yellow Jackets and Robber Bees

Reduce entrance



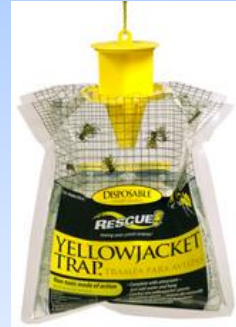
Entrance Reducer



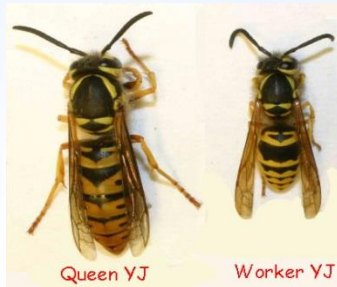
Robber Screen

Yellow Jackets and Robber Bees

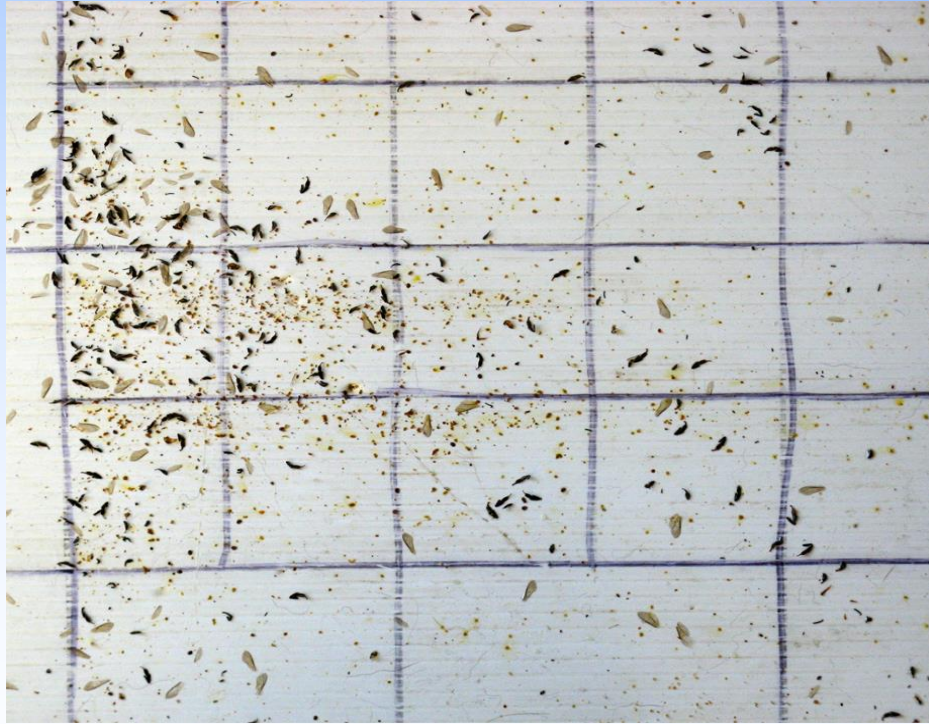
Put Yellow Jacket traps nearby.



Trap YJ queens use folded-up burlap



Yellow Jackets In Hive



Evidence of bee kill by yellow jackets inside hive

Provide Water Until Rain

- Provide water with rocks and sticks for bees to stand on.



Fall September - October

- Strong Hives and good queens
- Provide good food stores
- Control moisture
- Varroa Control



Bees' Definition of Fall:

Bees tell you Fall is here when they start kicking out the drones. [Drone eviction](#)

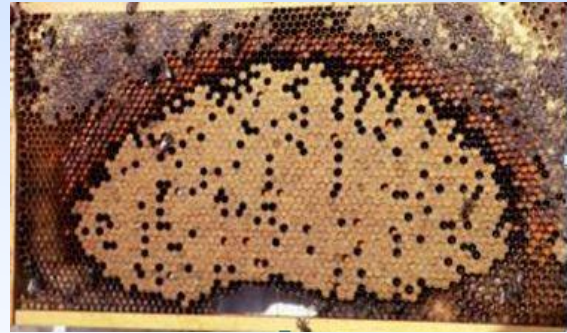
Check Strength of Hive

After medication is off, check for presence of queen and hive strength.

A strong Fall hive has 6 - 8 frames of bees.



This is a strong hive



Decent brood pattern for Fall

Take Your Losses in the Fall

Combine weak hives

Combine weak with strong hive
Don't combine weak with
strong IF weak hive is
diseased.

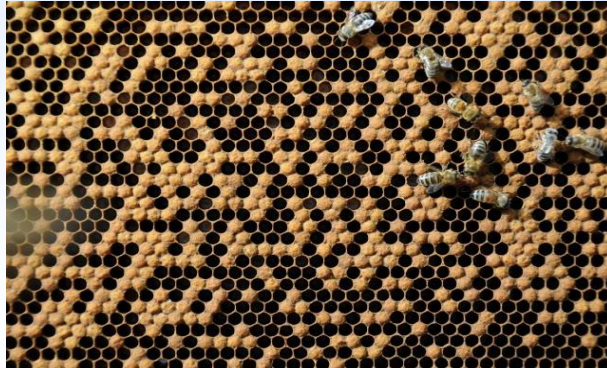
Combine with newspaper
between the boxes of hives for
36 – 48 hours.

(need to kill queen from weak hive)



Re-queen If Necessary

- It's necessary to have a good laying queen through winter.
- Re-queen if hive is queen-less!!
- Re-queen if brood pattern is spotty.



Re-queen If Necessary

Result of late supercedure:

Low population of drones

High possibility of poor mating



Photo by Mark Gretchen. Queen
cell/beeranch.wordpress.com



Photo by Judy Scher

Fall and Winter Food Stores

Pollen

- Bees need good pollen stores in order to raise “fat bees” for the winter.
- If there's no store of pollen, provide pollen substitute (e.g. Bee Pro).
- Pollen must be next to the brood.



A good mix of pollen



Bee Pro patties

Reminder ... vitellogenin

- Lengthened life span to survive winter
- Allows a nurse bee to survive for several months on honey alone
- In fall, brood rearing ceases and emerging bees store protein in their fat bodies

Fall and Winter Food Stores

Carbohydrates (honey)

NOW - October:

If hive is light on honey feed **syrup**:

Bees can evaporate water and cap cells now.

2:1 sugar water

Use top feeder.

Boardman feeder entices robbing especially now

Fall and Winter Food Stores

- Last inspection: (End September – Mid October)
full honey super needs to be above brood boxes.
- Freeze surplus honey to give back to bees in early spring.

Moisture Control and Ventilation

**In our area moisture will kill bees
...NOT cold**

Do not wrap hives

Locate hive out of the wind

Moisture Control and Ventilation

Use screened bottom boards
OR tip the hive up ~1 inch from the back with a shim



Use screen tops with moisture collector.
Burlap, Straw,
Old Towels, Leaves
Rigid insulation



Medication September - October

Threshold: < 2% Varroa mites (6 mites/300 bees)

Apiguard 59°F – 105°F

Api Life Var 65°F – 85°F

Oxalic Acid

Note: *Do not use Formic Acid treatment - will kill uncapped brood.
Bees need this brood for winter!*

Refer to “Tools For Varroa Management” - Honey Bee Coalition

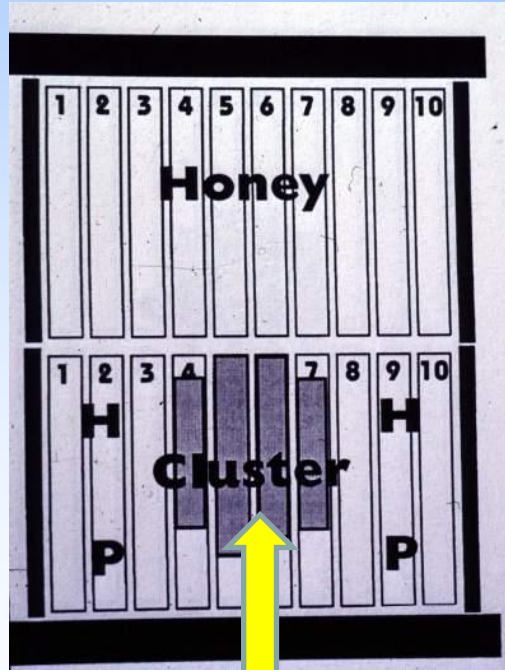
Winter November - February

- Check Stores of Honey
- Emergency Feeding
- Treatment for Varroa Mites
- Preventing Mouse Damage
- Interpreting Collection Board

Winter Bees...

- do not hibernate - keep cluster warm by vibrating wing muscles
- cluster in large ball around the queen when temperature < 45 degrees F.
- need honey stores close to - touching - the cluster.
- Cluster moves UP over the winter.

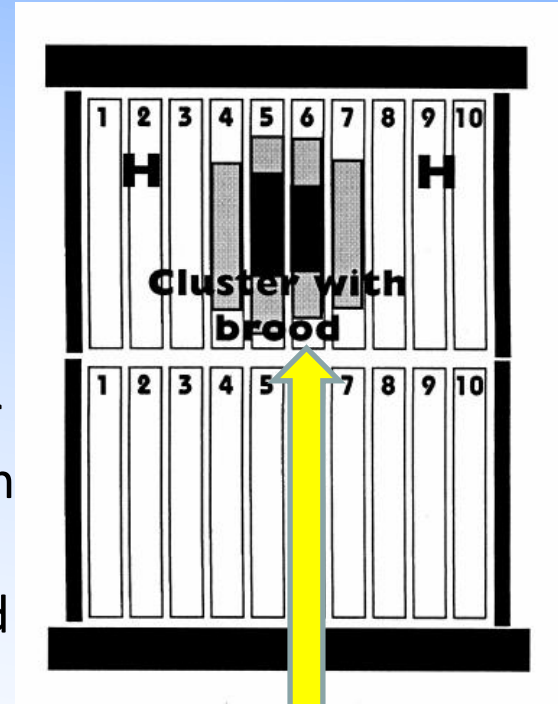
The winter cluster



Little brood present



Cluster
position
moves
upward

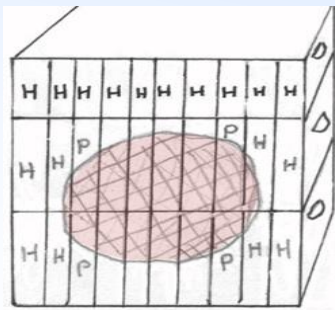


Brood rearing begins

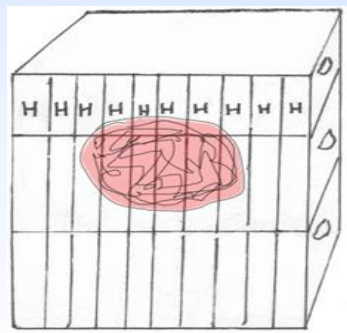
Fall and Winter Food Stores

Honey Stores

- Each hive needs at least 60 pounds of capped honey.
- Two frames of honey on either side of cluster PLUS one full western of capped frames on top.



Fall Cluster of bees



Winter Cluster of bees

Fall and Winter Food Stores

Starvation is very dangerous in winter.

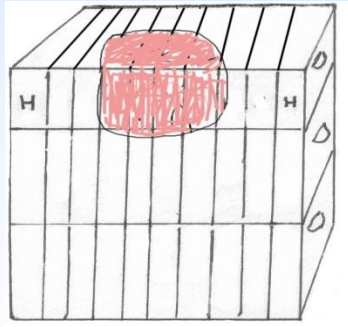


Photo by Scientific Beekeeping

Emergency Food Winter

Estimate weight by hefting hive from the back bottom.

If light – do quick look-see in top box.



Bees Consumed Honey – Feed Emergency Food!

Emergency Food Winter



Use only Cane or Beet Sugar – pure sucrose
Mix to consistency of sand. Place on top of inner cover or make a candy board.
Let harden and place above frames (under moisture box).

May also make fondant – see recipe on LCBA web site

Check Varroa with Collection Board

- Collection boards may be used in cold temperatures
- Varroa mites in SINGLE DIGITS
- The only winter treatment is oxalic acid

Medication November – Mid Jan

Oxalic Acid

- Kills phoretic mites
- Use when brood laying is at a minimum



Refer to “Tools For Varroa Management”
- Honey Bee Coalition

Mouse Damage



Mouse damage to Frame



Mouse Entombed in Propolis

MOUSE GUARDS

Use entrance reducer or hardware cloth leaving small hole for bees.



Entrance Reducer as Mouse Guard



Live Mouse Guards

Check for Mice with Collection Board

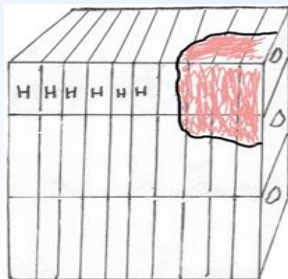
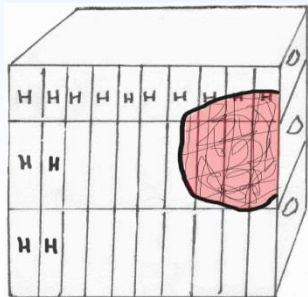


Check Pattern on Collection Board

- Cappings and debris from brood cells should be **CENTERED** on the board!

If bees are pushed to one side they will be out of honey and may starve.

Uncentered Cluster!



Check Pattern on Collection Board

- If not centered, move honey frames from opposite side of cluster and relocate next to cluster side so cluster is centered.

Do this on a dry day at least 50 degrees F.

Winter Cleansing Flight

- On a dry day around 50° F bees will fly out of the hive
- to defecate and clean out dead bees and debris
 - healthy bees don't defecate inside the hive



Cleansing Flight

Normal Winter Bees

- Normal to see more dead bees by the hive than in summer.
- Help them by cleaning out dead bees and other debris behind mouse guard.



That's All, Folks!