



Welcome

This started as discussion on candy boards but I realized that would take about 2 minutes so its more on winterization.

I am discussing what has worked well for me and hope that you find it of interest and value

The only dumb question is the one not asked. Chances are someone else has the same question. Feel free to ask questions as we proceed.

My Experience

Our Bee Yard

- * Approximately 3150' Elevation
- * Temperature Routinely in Single Digits – sometimes below 0
- * Subject to Strong Winds – up to 60 MPH
- * Some Protection from Surrounding Trees
- * Snow on Ground for 30+ consecutive days each of last 2 years
- * Italian Bees

Colonies

- * First Winter (2020-2021) - 4 Colonies Entering Winter
- * Second Winter (2021-2022) - 6 Colonies Entering Winter
- * No winter losses

Wind chill reaching 35-40 degrees below 0

Winter 2021



Picture of our first winter
No Wrap

MOST IMPORTANT – Control Mites

🏠 OA Dribble

- * 35 gm of OA per liter of 1:1 sugar water
- * 50 ml of solution per hive (5 ml per seam between frames)
- * Large catheter tip syringe
- * PROS: Cheap and Easy
- * CONS: Need reasonably warm day / minimal wind, Break propolis seal

🏠 OA Vapor

- * Treat according to directions
- * I treated 3 times (until no/few mites dropped)
- * PROS: Not weather dependent
- * CONS: Equipment cost, May be time consuming (10-15 min/hive)

December Time Frame

My opinion – the most important thing to do is a late mite treatment. I do mine in December

2020 – I did an OA dribble using Randy Oliver's recommended solution. Some say the max solution is 50 ml per hive even if you have 2 brood boxes. I used a large catheter tipped syringe – Randy uses a garden sprayer. This is cheap and pretty easy – practice with 1:1 without OA. Overall, It goes pretty quick with the time being opening and closing the hive. I only applied it once – needs to be a decent day weather wise. Of course you break the propolis seal.

2021-2022 – I did OA vapor – I have the wand that you insert thru the hive entrance.

I did 3 treatments with 6 days between each. Essentially no mite drop after the 3rd. I debated just 2 and that probably would've been OK.

Nice that you can vaporize when weather is cold and windy as long as you seal up the hive when applying.

Cheap after the cost of the vaporizer.

Takes a bit of time with my wand as it heats for 2 mins and you leave in hive for 10 min. With 8 hives, I expect it to take around 2 hours.

You have to remove the entrance reducer to insert wand and I replace after treatment. I don't put on mouse guards until after last treatment is done.

Moisture Quilt

- 🏠 Screened Box that sits on top of hive
 - * Allows moist air to pass through
 - * Catches condensation drips
 - * At least 2" height – ventilated above
 - * Loose fill with absorbent material (pine shavings)

🏠 PROS

- * Other uses:
 - * Screened inner cover in summer
 - * Shim for releasing queens

🏠 CONS

- * Material can drop dust into hive (old T shirt)



My first winter, I used a homemade moisture quilt

Essentially, it's a screened box that allows moisture to pass through

It has vent holes near the top to allow air to circulate and dry it out.

Condensation on cover drips onto a filling – I used medium pine shavings.

Mine were about 2 1/2 " high – the screen is offset 1/4"

The taller it is the more fill you can put in and the more insulation it will provide

I use it as a screened inner cover during the summer

I have also used it as a shim to release queens so I'm not messing around trying to hang the queen cage between frames
Depending on the fill, it can drop dust into hive or onto your candy board. Lining with an old T shirt should help with that

Candy Board

📦 Box

- * 2 ¼" Height
 - * Room for initial sugar block and supplemental cakes
 - * Minimizes dead air space
- * ½" Hardware Cloth
 - * Allows bees to pass through if they desire
 - * ¼" from bottom edge

📦 Sugar Block (per hive)

- * 10 lbs of sugar
- * 1 ½ cups of warm water +/-
- * 1 tbs of HBH
- * Pinch of mineral salt (optional)



Box – The height is not overly critical

- I cut to 2 ¼" as it works well with my box joint blade
- If using an old hive box, I would cut to 2 ¼" less the saw blade's kerf
- It's a balance between room for the sugar block and supplemental cakes added later and too much dead space for the cluster's heat
- I use ½" hardware cloth which allows all bees to pass thru if they want
- I leave ¼" gap underneath for some semblance of bee space but the weight of sugar pushes it to top of frames – haven't had issues with burr comb yet

- I use 9/16" lath screws to secure wire

Sugar Mix – this formula is what I use, amount of sugar could use more or less if desired or not able to check hives for extended period

- too much water and the solution will seep out while block is curing
- too little and it may be crumbly and hard to place in box – I haven't had this yet
- HBH (or apple cider vinegar) to retard mold etc.
- Some may want to add a pinch of mineral salt – I have not
- takes a while to cure – depends on humidity etc. of location – a small fan helps
- can dissolve uneaten sugar in spring and use normally

Candy Boards - continued

🏠 Filling the Box

- * 1-Pour mixture into box – easy but spring clean-up is harder
- * 2-Line with paper – easy but bees must chew thru paper
- * 3-Pour into a frame and then place hardened cake into box
- * Leave space along edge for air/bees to pass through
- * Can add a pollen patty on top

🏠 Check Periodically

- * I check about 1/month
- * Add supplemental cake if needed

I have tried 3 ways of putting into the box – put plastic underneath:

1 – just pouring directly in which is easy but makes for a difficult spring cleaning

2 – lining the box with paper – also easy but bees must chew through paper and remove from hive – I saw a bee struggling to fly with an inch long piece of paper

3 – What I do now is pour the mix into a frame which is just a super and allow it to harden then place into box – ok if it cracks

Be sure to leave a space for bees and air to pass through

– when poured directly into box, I used a small piece of Tupperware lined up with upper ventilation hole/entrance

– when poured into a frame I place $\frac{3}{4}$ " scrap wood along 2 sides

- provides ventilation

- allows bees access to top

- provides room for cake to slide all the way in and not get hung up on the wire

If you desire, you can put a pollen patty on top

I check about once per month on a day the weather isn't bad

If low on sugar, I add a supplemental cake or 2

Some ate a little



The pictures on next few slides were taken at the end of March.

For these 2 you can see not much sugar was eaten – though sometimes more has been eaten underneath as that's where moisture and heat dissolves the sugar

Pollen patty sat on top of sugar – the first year I embedded the patty in the sugar and that was a royal mess

The one on right – I had removed the patty before the pic

Some ate a bit more



These bees ate more sugar and pollen

Some ate a LOT!



Each of these also had 6 pounds of sugar cakes added over winter

These 2 colonies were flying pigs
In addition, I had added 2 sugar cakes to each of these hive
in early February
Sugar and pollen almost gone
Very little comb built into candy boards

Other Considerations

🏠 Mountain Camp

🏠 Insulated Top

- * Not needed with moisture quilt

🏠 Hive Wrap

- * Roofing felt paper
- * Bee Cozy – 2 Story = \$21.95 at Miller Bee Supply
- * Rigid Foam

🏠 IPM Board

- * If using a screened bottom board over winter

🏠 Entrance Reduction

Mountain camp feeding, pour sugar onto sheet of paper placed directly on top of frames-Rusty Burlew places a bag of sugar and just cuts it open
Requires a shim or super possibly resulting in a lot of dead space

2021 – I used foam boards for insulated tops – mine were 2” thick.

You may want to try a hive wrap

Some use roofing felt paper – relatively cheap and effective at blocking wind
2021-I used Bee Cozies – provides some insulation as well as a wind block.

Very easy – just slip it over hive. Make sure to not block entrance

Miller Bee in North Wilkesboro is much cheaper than others that I found
Rigid foam also provides insulation and wind break. requires cutting, taping etc.

Install an IPM board if leaving screened bottom board on

I use luan cut to size and painted and add a scrap piece to give a finger hold

Easy to clean in spring and doesn't have holes for pests, water

Also I haven't had any issues with wind blowing out from under hive

Should reduce entrance – Keep mice out

Blocks excessive wind but still has ample ventilation

I use mouse guards but only have 4-5 holes for ventilation

Other Considerations - continued

🏠 Feeding

- * August – should include lime in sugar water
 - * ½ tsp per 3 gal of 2:1
- * November – bees need potassium
 - * Amino-B

🏠 Cleaning

- * Mildew
- * Other matter

🏠 Weaker Hives

- * Equalization
- * Reduction
- * Combination

🏠 Feeding - Mickey's Discussion – from last July

- * August – should include lime in sugar water
 - * ½ tsp per 3 gal of 2:1
- * November – bees need potassium
 - * Amino-B – bottle says 4-8 tsp per gallon

🏠 Clean any mildew and other matter in hive before winter

🏠 Weaker Hives

- * Equalization – swap frames from a strong hive with weak hive
- * Reduction – put bees in smaller space – last year I replaced 2nd deep with mediums on several hives
- * Combination – combine 2 weaker hives

Conclusion

Your bees are getting ready for Winter...

Are You?

Questions