



The Managed Mentoring Program on Getting Started in Beekeeping.

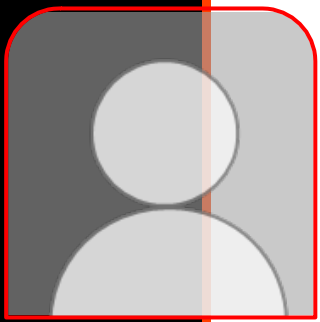
# Managed Mentoring



# Managed Mentoring

**Top to bottom hive setup**

Lesson | Introduction to Langstroth Equipment



# What is Covered in this Lesson

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The Parts of a Langstroth Hive

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Bottom Boards

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Boxes

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Inner and Outer Covers

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Frames and Foundation

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Frame Rests

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Adjunct Equipment

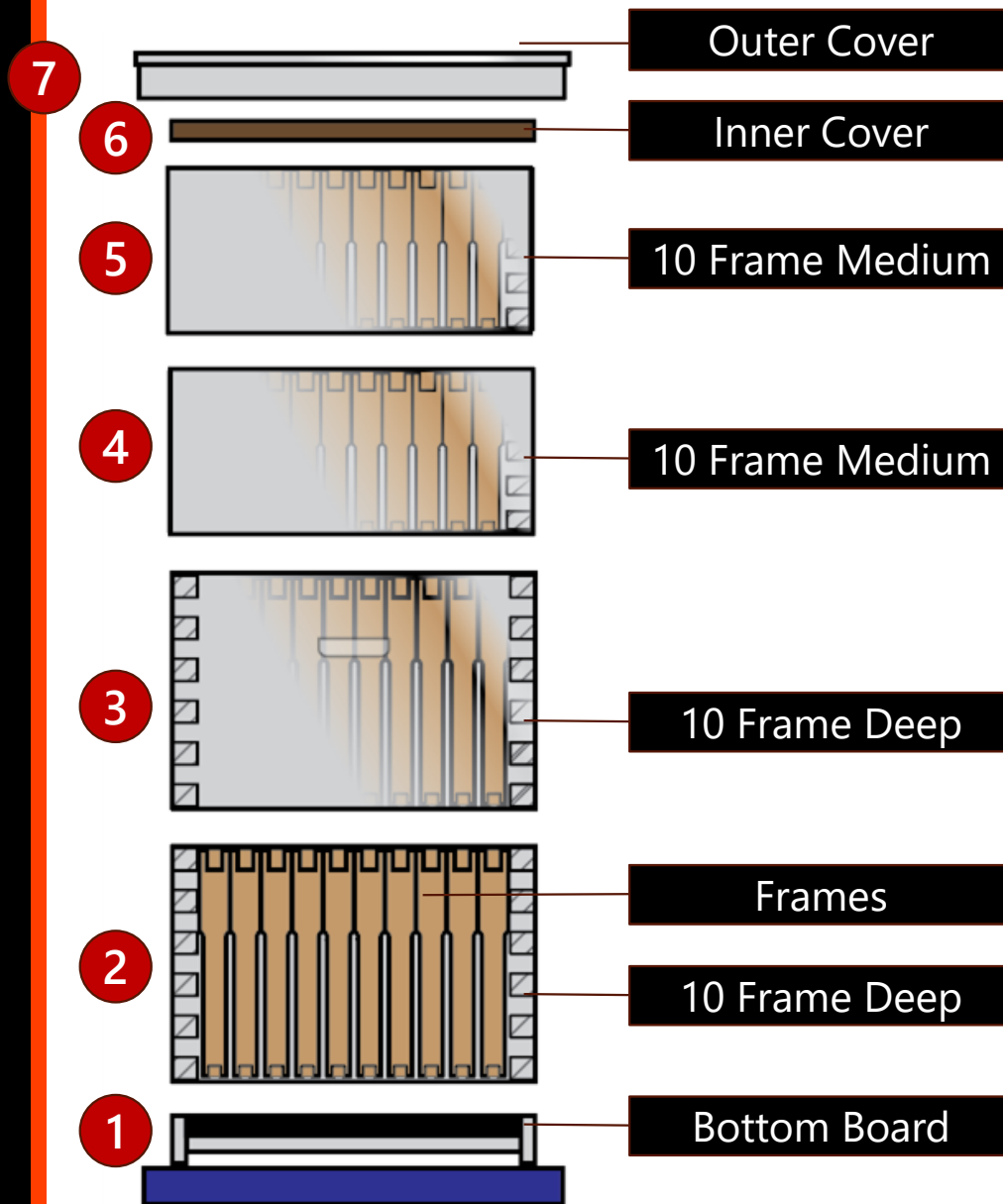
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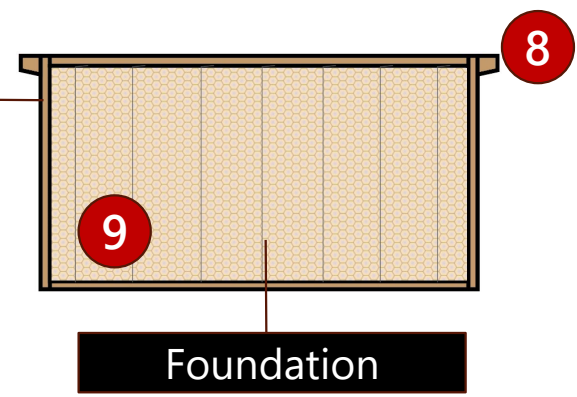
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# Hive Parts



**Starting from the bottom board, and working our way to the roof.**



## The Hive Stand base...



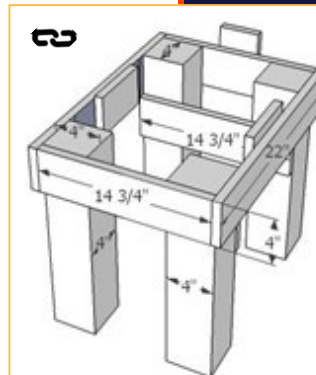
### □ First, Why no mention of a hive stand base?

- *Hive stand bases are offered but are not as commonplace today.*

- There is nothing wrong with a hive stand bases, but most this format has been relegated to an optional piece of equipment and most opt not to purchase it.
- We agreed but suggest that it is beekeeper preference.
  - Its primary purpose is to ensure the hive does not sit directly on the ground.
  - It is correct that a hive should not sit on the ground, but we will provide recommendations on hive stands when discussing setting up the apiary. (see image lower right)
- There are many designs available. We be will recommend some form of hive stand, in the stand-alone form factor, when we get to optional equipment.
- Typically, the ones we prefer have a base with four legs; are more like this example shown here. >



Hive Stands





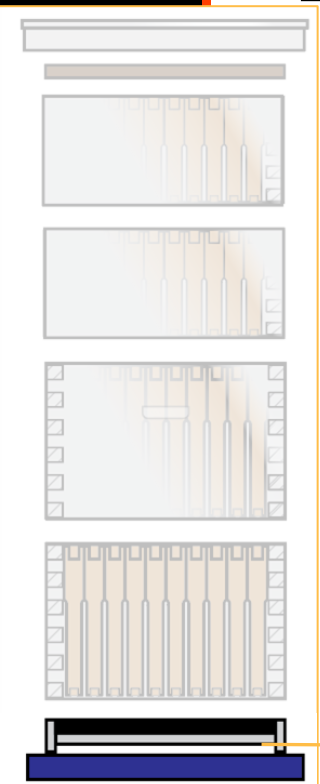
# Bottom Boards

Make note of  
the insert

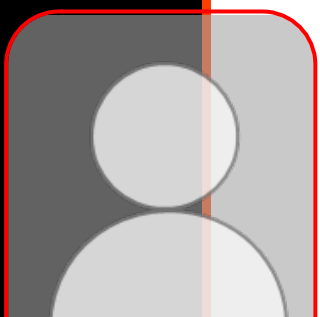


## □ Two formats are common

- *Solid bottom board*
  - More traditional
- *Screened bottom board*
  - Designed for two purposes:
    - Ventilation
    - Integrated Pest Management (IPM)
      - The screen on the floor allow Varroa mites groomed off by the bees to fall through, thereby lowering the impact to the bees.



Bottom Board



# 7

## Insights: Bottom Boards

### ❑ Solid vs. Screened

- *It is a beekeeper preference. Many today want the advantage of IPM so they go with screened.*

### ❑ Screened bottom boards

- *They often come with a slide in tray. There are a few uses for the insert:*
  - They are used to close off the hive when the weather warrants it.
  - They are also often gridded and can be used as part of a varroa management program. Grids serve the purpose for counting mite drops.

### *Terminology*

#### **Integrated Pest Management:**

A management tactic that builds pest management into working practices

*A multi-pronged approach to combat pests using a combinations of methods together.*

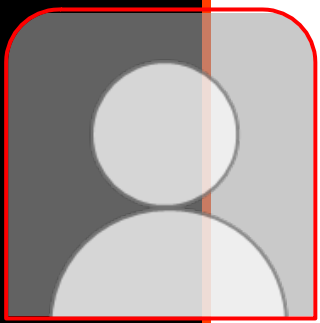


## Bottom Boards: "Reversible"

### ❑ Original designed to used in two ways.

- *Deep in the summer, shallow in the winter.*

- ❑ The deep side of the bottom board, when facing up [summer], results in a gap of 3/4".
  - The wider size allows more room for foragers to come and go during nectar flows.
  - This size accommodates a standard 3/4-inch entrance reducer. It also allows
- ❑ The shallow side of the bottom board, when facing up [winter], results in a gap of around 3/8ths
  - When run this way in the winter, it allows for bee space, but it too small for mice and other pests.
- Most run 3/4 up and use entrance reducers (pictured below), and do not bother with flipping the board over for winter.
- ❑ It is too much work to take all of the boxes off in order to flip the bottom board over.





# One quick preference

## ❑ Solid wood construction

- *Bottom boards are exposed to a lot of moisture.*
- *Sometimes manufactures make them out of engineered wood (Plywood for example).*
- *Do consider purchasing this equipment made from solid boards, as shown in these examples. They last longer.*
  - In our experience, some plywood boards delaminate because of excess moisture.



Bottom Board

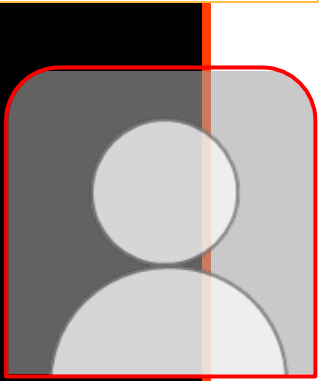
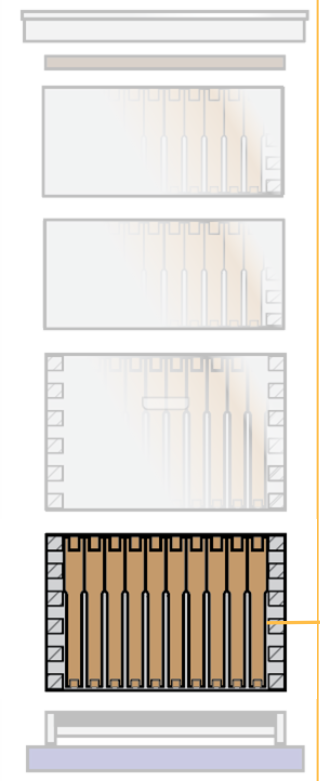
## (2) Deep Hive Bodies

### □ Deep hive bodies

- Typically made from nominal 3/4" pine.
- Come in standard dimensions and feature
- Typically ***sold unassembled***
  - Don't forget the hardware; often sold separately
  - You can buy them assembled from some providers
- Many vendors offer different levels of wood quality.
  - Labels such as **Select**, Commercial grade, Budget, etc.



Deep Hive Body



## (2) Medium Hive Bodies



### ❑ Medium hive bodies

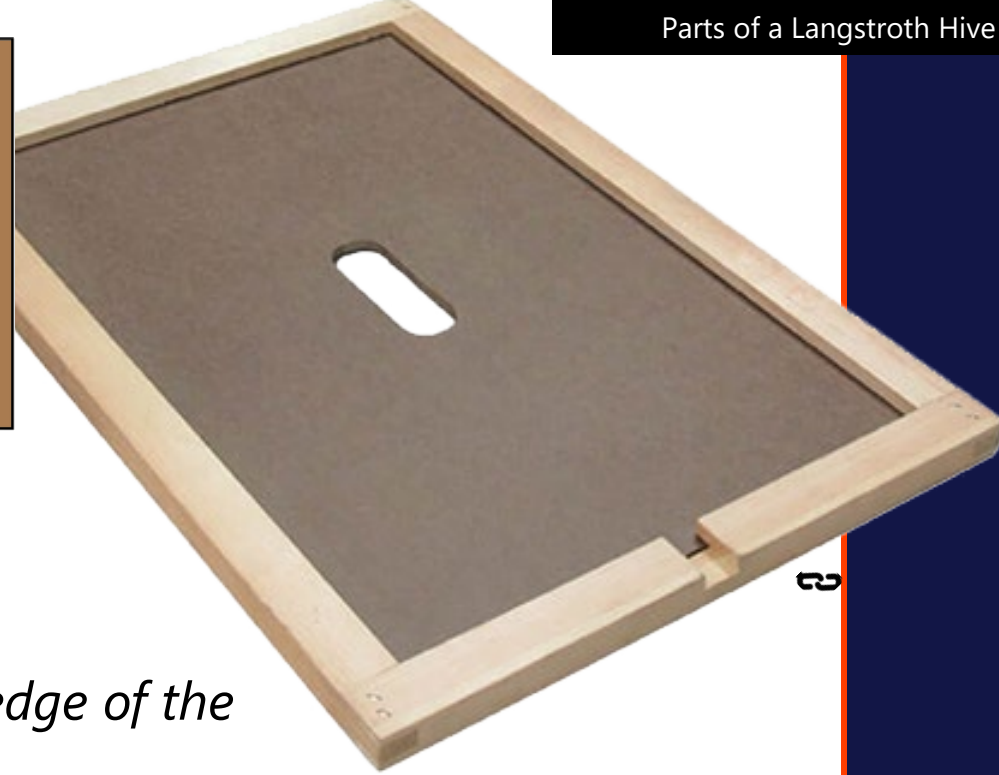
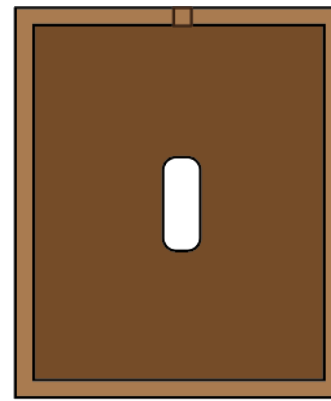
- *These are just smaller versions of the deep hive body form factor.*

### ❑ Shallow hive bodies (not pictured)

- *It could be noted that there is an offering of another hive body design called a shallow.*
  - It is, as its name suggests, even smaller than a medium box.
  - While available, these are not customarily used.

Mediums

# Inner Cover



## ❑ Barrier between the bees and the roof

- *The rim of the inner cover sits on the top edge of the hive body.*
- *The bees often seal this cover using wax and propolis, forming a sealed joint.*
  - Using the inner cover allows you to place a telescoping cover over the stack.
  - The telescoping cover envelopes the top of the hive and prevents moisture from getting in.
  - If the telescoping cover were to be placed directly over the hive, the bees would 'glue' it down and it would be complicated to use a hive tool to pull the roof off.

Inner Cover



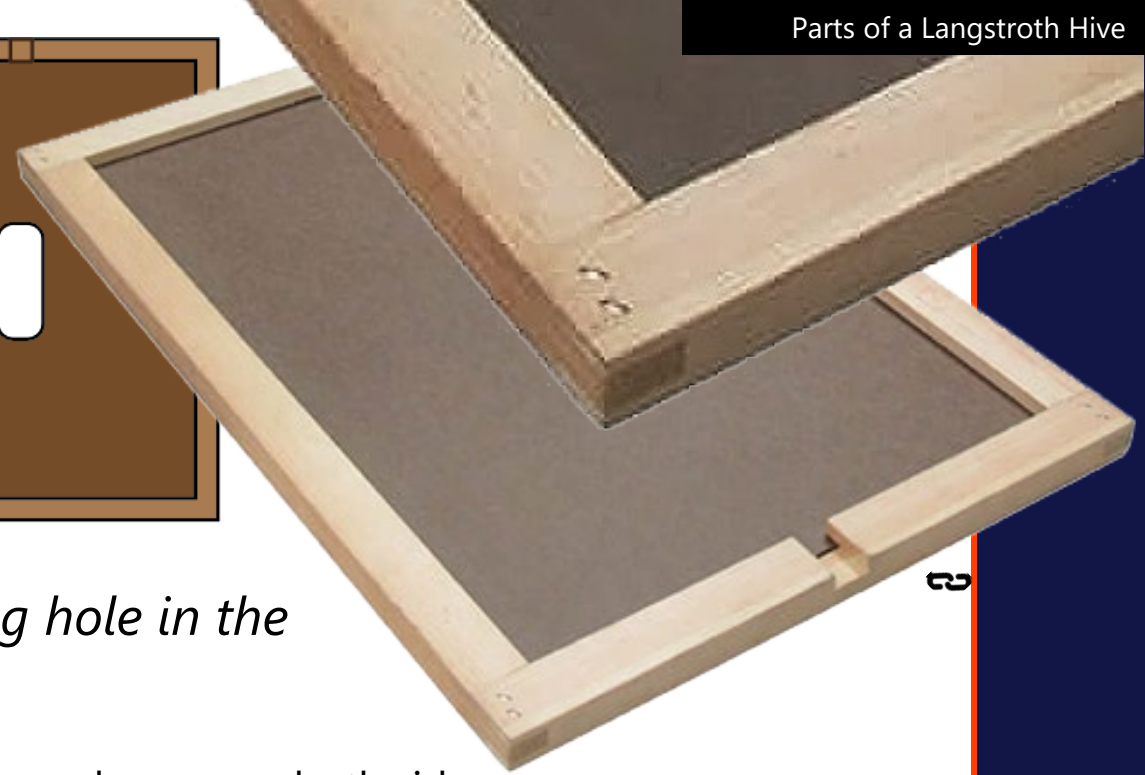


# Inner Cover

Inner Cover

## □ Inner Cover Design

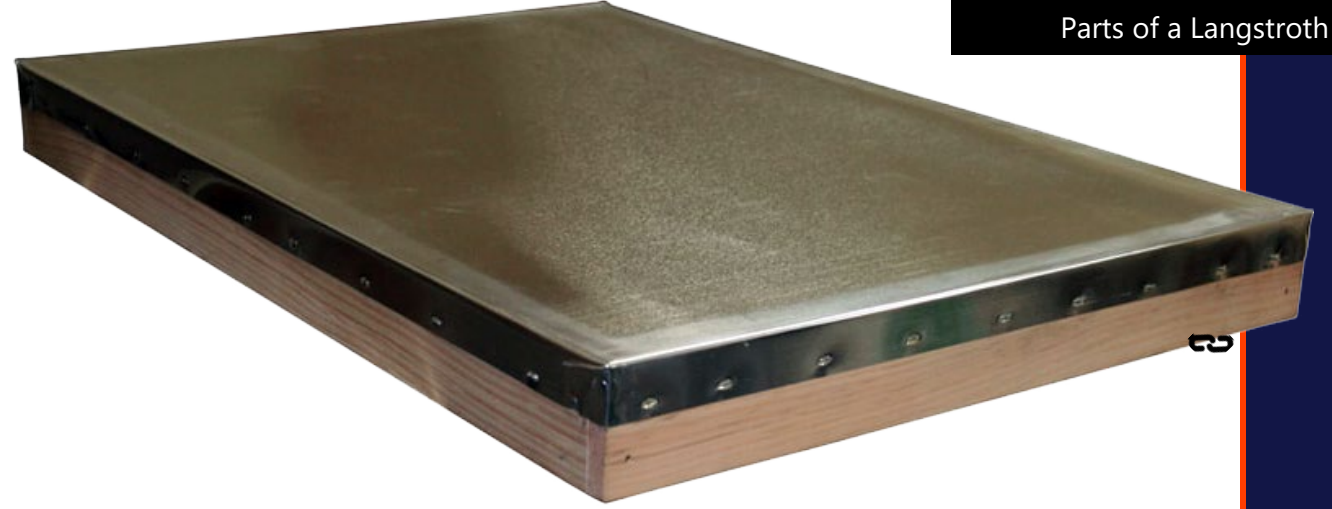
- *Typically a thin sheet of wood; oblong hole in the center, surrounded by a raised rim.*
  - The construction should result in a recessed space on both sides
    - The depressions caused by the use of thinner wood for the center is often offset so that it causes the spacing to be deeper on one side, and a shallower on another.
  - In the example, the fabrication is completed with joinery and a staple.
    - It is best to buy a high quality constructed piece due to the nature of how you use a hive tool to pry these off. Poorly constructed ones sometimes do not hold up.
  - The notch is optional, but recommended. Its use will be covered later.



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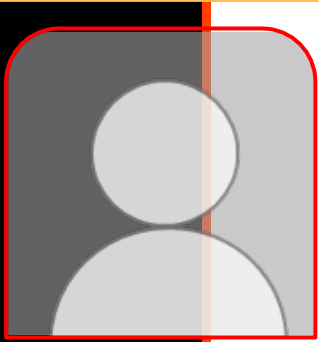
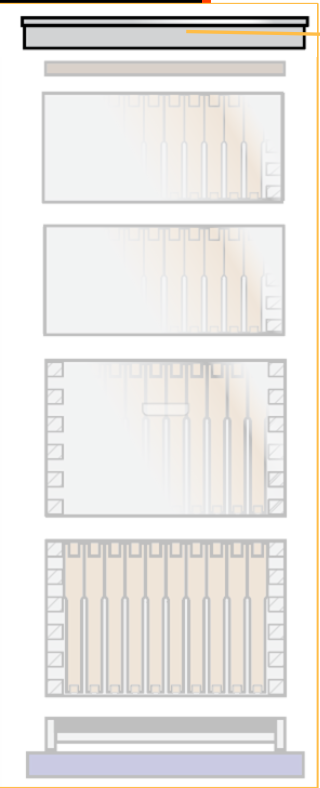
# Outer Cover, Roof



Outer Cover

## □ Hive Roof

- *The hive roof is dimensionally larger than a hive body so that it sets over and envelops the top box.*
  - Because of this function, a hive roof is often referred to as a **telescoping cover**.
  - They are covered on the top with some form of metal sheet and the seams that descend down the sides are either nailed or stapled in frequent intervals to hold the metal cladding snug.
  - Ideally the sides are designed with enough distances so that they envelop the top of the hive.
    - Manufacturers vary on how deep they make outer covers. We prefer them to be on the more generous side, meaning the depth of the cover avoids being too shallow.

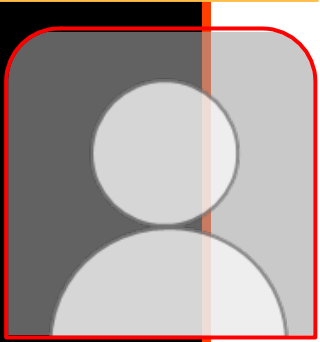
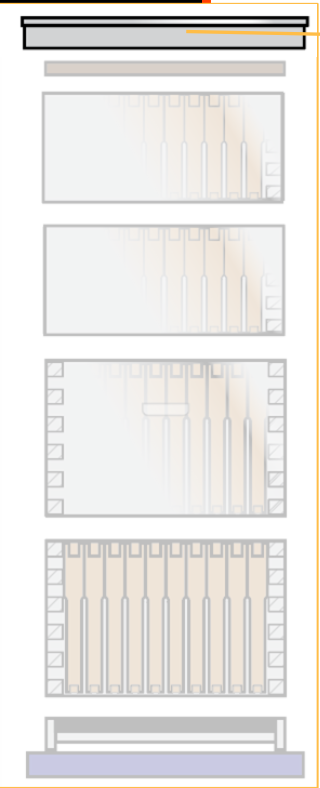


# Outer Cover, Garden Style

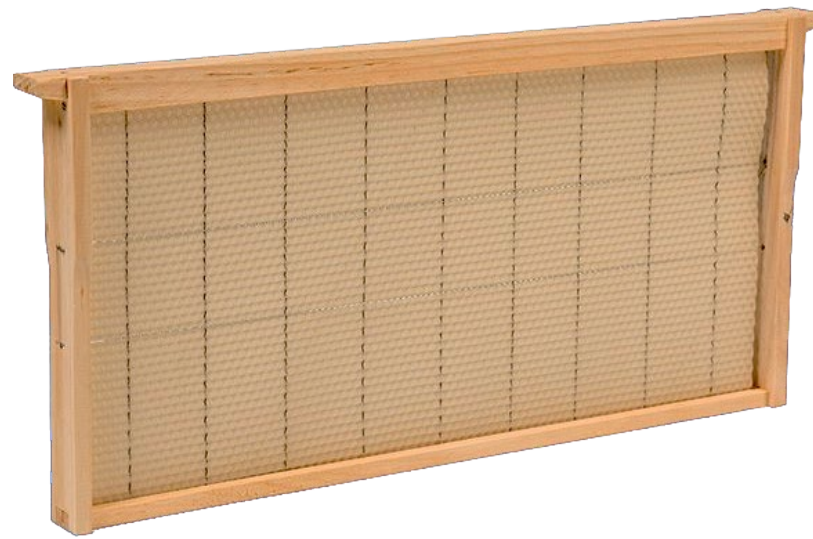
Outer Cover

## □ Garden Design Hive Roof

- *These are popular for aesthetic reasons*
  - In use they are not that much different from a conventional roof.
  - They do negate some ways to use a customary roof in certain management practices.
    - Like setting a box down on an inverted outer cover
    - Using these are personal preference, but for practicality reasons one should refrain
      - They do not stack well, and other practical considerations are underlying the notion.



## Frames

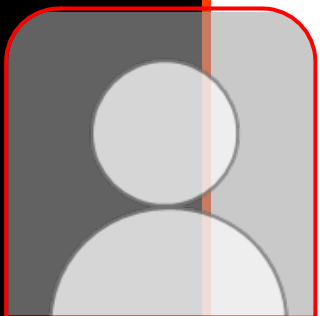


### ❑ Two more common variations

- *Plastic Foundation in wooden frame*
- *Wax Foundation in a wooden frame*

### ❑ Not recommended

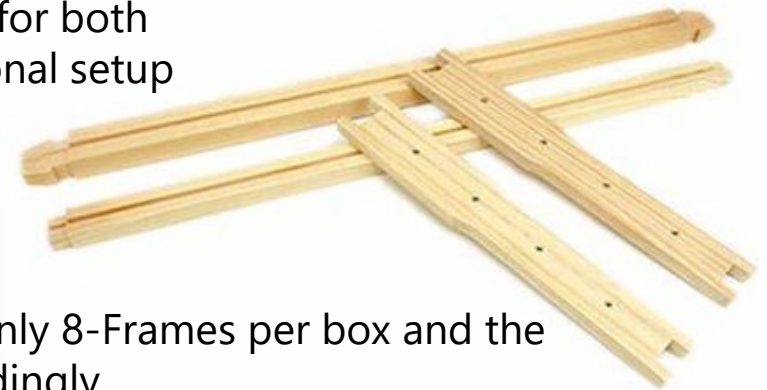
- *All plastic construction frame*
  - Do not purchase or use these



# Frames & Foundation

## □ Frames (Deep & Medium)

- *Each individual box houses 10 frames.*
  - This means of course that you'll need 20 frames for both the deep boxes, and the mediums in a conventional setup
    - Or 50 frames for an all-medium hive stack.
- *Exception 8-Frame hive stacks.*
  - Of course, an 8-frame hive is designed to hold only 8-Frames per box and the total number of frames would be reduced accordingly.



Frames

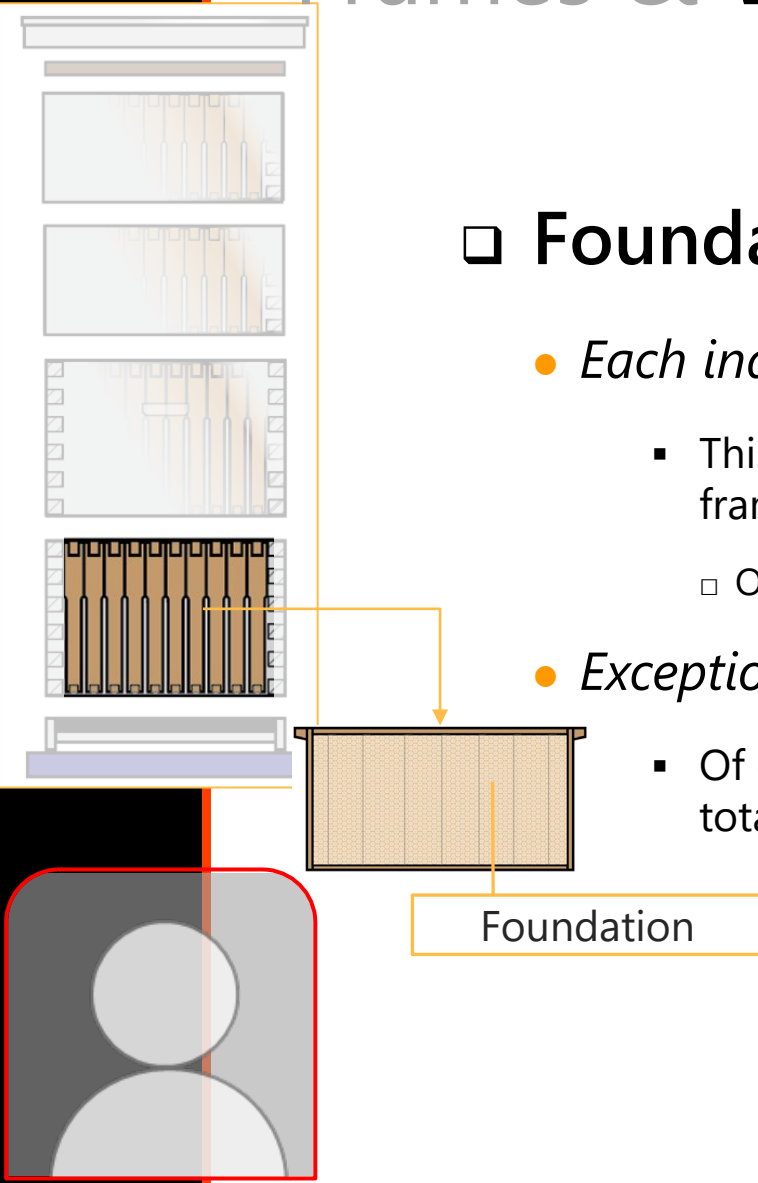
Variations of frame designs will be covered at a later time



# Frames & Wax Foundation

## □ Foundation (Deep & Medium)

- *Each individual box houses 10 frames.*
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- *Exception 8-Frame hive stacks.*
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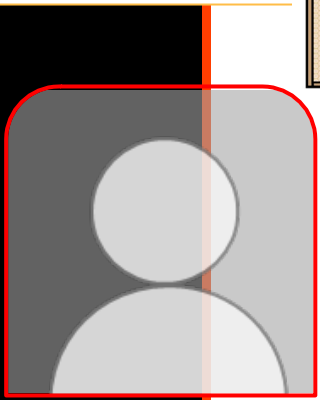
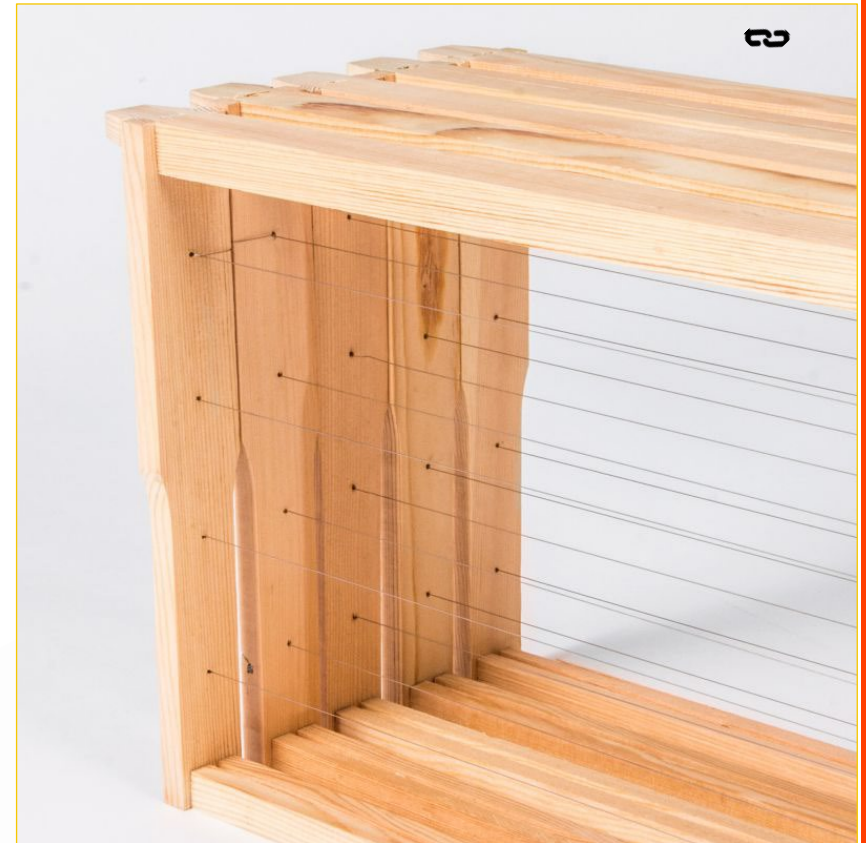
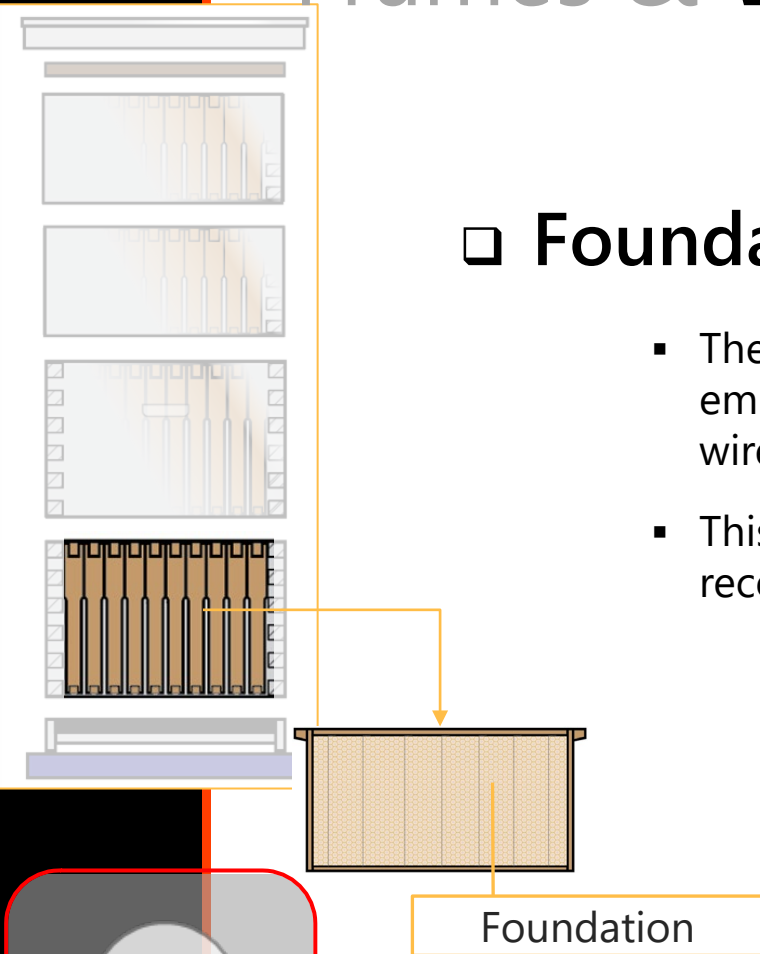




# Frames & Wax Foundation

## □ Foundation Wiring

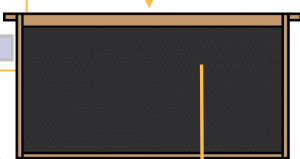
- There is a historical method that employs wiring a frame with support wires to hold the foundation in.
- This is both outmoded and not recommended for new beekeepers.



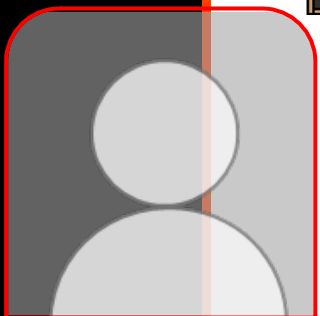
# Plastic Foundation

## ❑ Foundation (Deep & Medium)

- *Not our preference*
- *The marketplace offers ready made foundation made from embossed plastic sheets. We prefer you do not use these if possible*
- *Our experience has shown that new beekeepers struggle to get bees to build honeycomb out properly on this substrate. For that reason. we are requiring beekeepers to start with wax foundation*



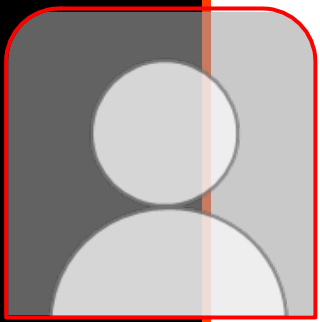
Foundation



# Frame Support Pins

## □ Support Pins hold Foundation

- *Recommend two for each side*
- *Frames sold with pre-drilled holes*
  - The holes are for either pins or wiring frames.
    - Do check that your frames have holes when sourcing.



# Frame Rests & Unseen Hardware

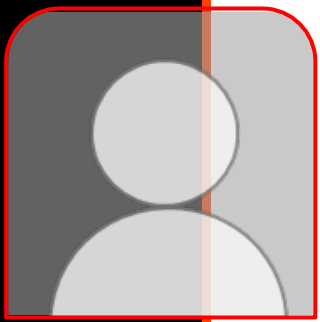
## □ Frame Rests

- *Frame rests protect the woodenware*

## □ Unseen Hardware and Materials (not pictured)

- *Nails for the Wooden Boxes, Glue*
  - Hive boxes do not come with **Nails** and fabrication requires an external grade wood glue
    - Buy your nails from the equipment manufacturers. They will sell the right sized nails to go with the holes they put in the woodenware.
    - Normally any common external grade wood glues work – Titebond, Elmers, etc.

Frame Rests



## Is there more?

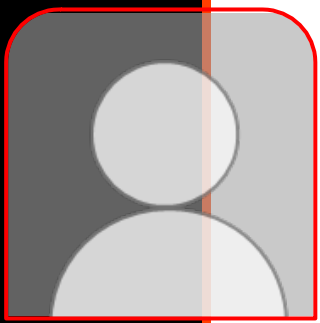


### □ Basic Hive Equipment

- *The first thing to say is we want to keep this simple, as such we are **sticking to the basics and not expanding on purpose.***
  - This was intended to introduce the basic hive components only.

### □ What of all the stuff in bee catalogs?

- *Of course, there are many more equipment options in a catalog...*
  - A few words on this. We will be covering other necessary equipment.
  - We will also have a separate session for things that you might optionally desire.
  - And finally, there is a plan to talk about the fringe things and weigh in on them.
  - For now, we ask that you stay on track with us for simplicity's sake.





# Closing Comments

## ■ Customary Close

- Where we stand, where we are going...
  - *This lesson closes out the overview of Langstroth hive pieces.*
  - *Our next lesson provides some guidance for purchasing your hive equipment:*
    - Buying guidance for **Purchasing Hive Equipment**
    - **Other Beekeeping Equipment** you will need
    - **Sourcing Protective Equipment** for the Beekeeper
    - Primer on **Building Frames**



## Q&A

- **What Questions did we not anticipate?**
  - If you have feedback, you can leave a constructive comment; but be nice.
  - You could also send an email to [comments@managedmentoring.com](mailto:comments@managedmentoring.com)
    - *Please refer to this video in the subject so we know what the reference is.*

