

Bee Hives

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Selecting a Hive

- What are your goals?
- Cost
- Physical Ability
- Standardization

Many Different Bee Hive Styles

Langstroth

Top Bar Hive

Flow Hive

Horizontal Hive

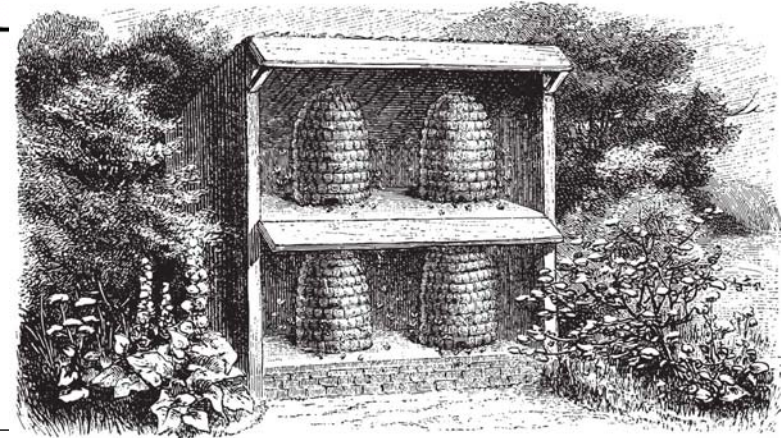
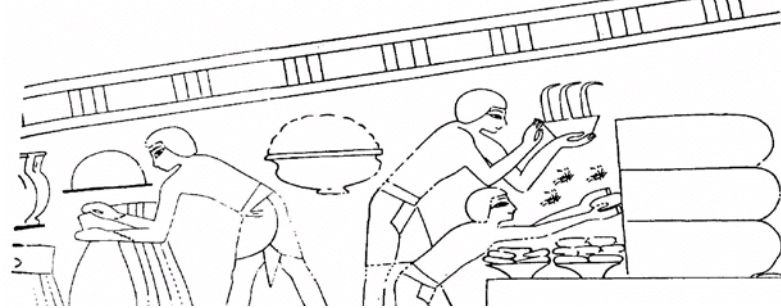
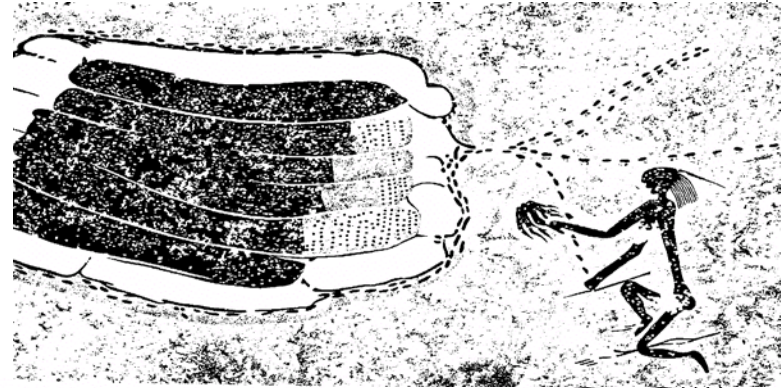
Polystyrene Hive

Bee Hive Variations



History of Honey Gathering

- Cavemen – cave paintings; circa 10,000 BC
- Egyptians – paintings in tombs; circa 2,000 BC
- Raising colonies in Hollow Trees, Clay Jars, and Woven Skeps

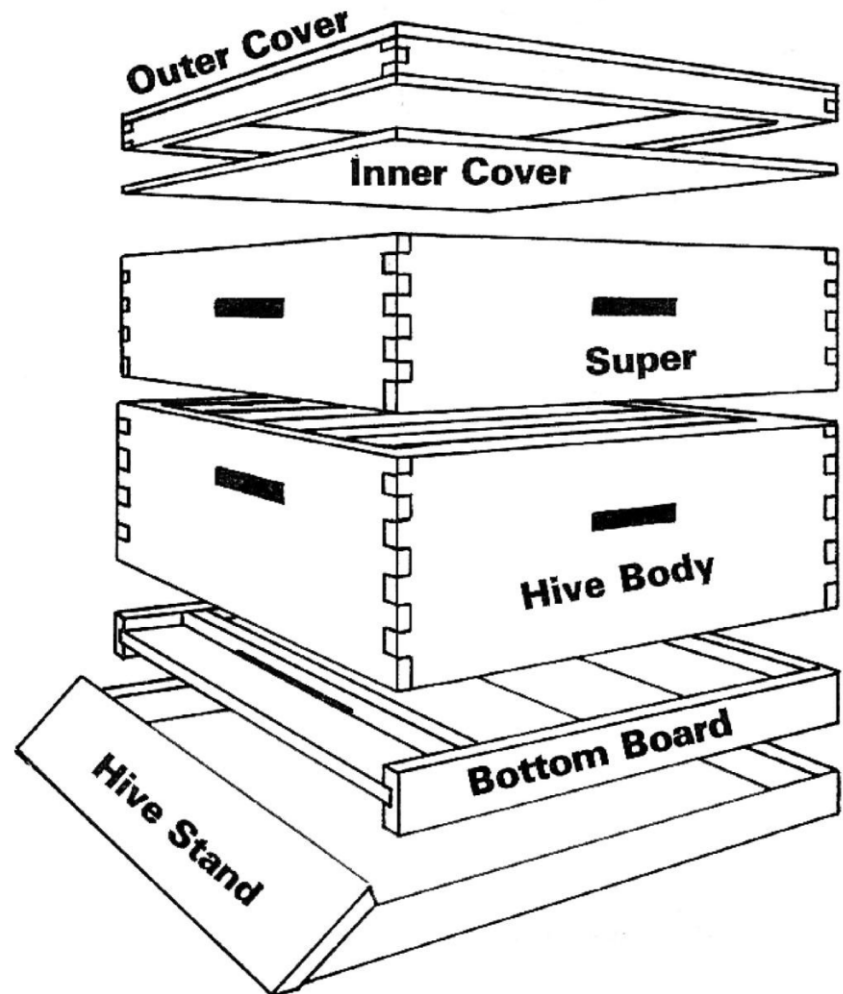


Rev Lorenzo Langstroth

- The Father of American Beekeeping
- Discovered bee space ($3/8$ ")
- Revolutionized beekeeping
 - Removable frames
 - Interchangeable parts
 - Allowed for easy inspection
 - Inspect hive for diseases
 - Monitor overall health of the colonies
 - Weak colonies can be strengthened
 - Space can be added to strong colonies
 - Queens can easily be found and replaced
 - Honey can be extracted without destroying the comb and killing the hive
 - Boost honey production reusable comb
- Imported first Italian bees in 1863
- Published "Hive and the Honeybee" 1853



Langstroth Hive



Langstroth Hive



Langstroth Hive PROs

- Standardization; equipment is of same size among all manufacturers
- Easy to move
- Harvest honey by extraction
- Hive management in frames
- Ventilation via chimney effect
- Easy to find a mentor
- Equipment available at many bee supply stores
- Can go 'foundationless' to allow bees to build own cells of any size
- Frame comb can be re-used; bees work for the bees
- Overall hive size can be expanded/contracted to fit seasonal population of bees
- Variety of accessories

Langstroth Hive CONs

- Cost of hives/equipment
- Heavy weights
- Wax foundation has larger cell sizes; could contribute to mites
- Bees naturally want to move down, not up
- Inspections disruptive to hive; separating boxes
- Storage of unused equipment can be an issue
- Re-using comb can increase exposure to chemical build up
- Complex design; exact measurements must be followed to ensure interchangeability
- Decreased wax harvest
- Difficult management; entire hive exposed when doing minor management

Shallow: 35-40 lbs

Medium: 40-50 lbs

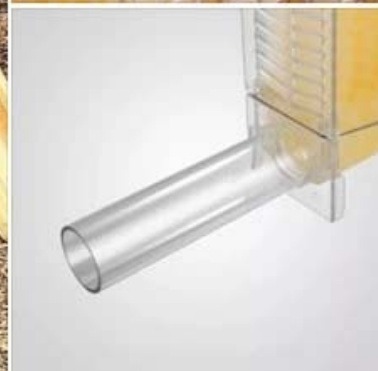
Deep: 70-90 lbs

Flow Hive

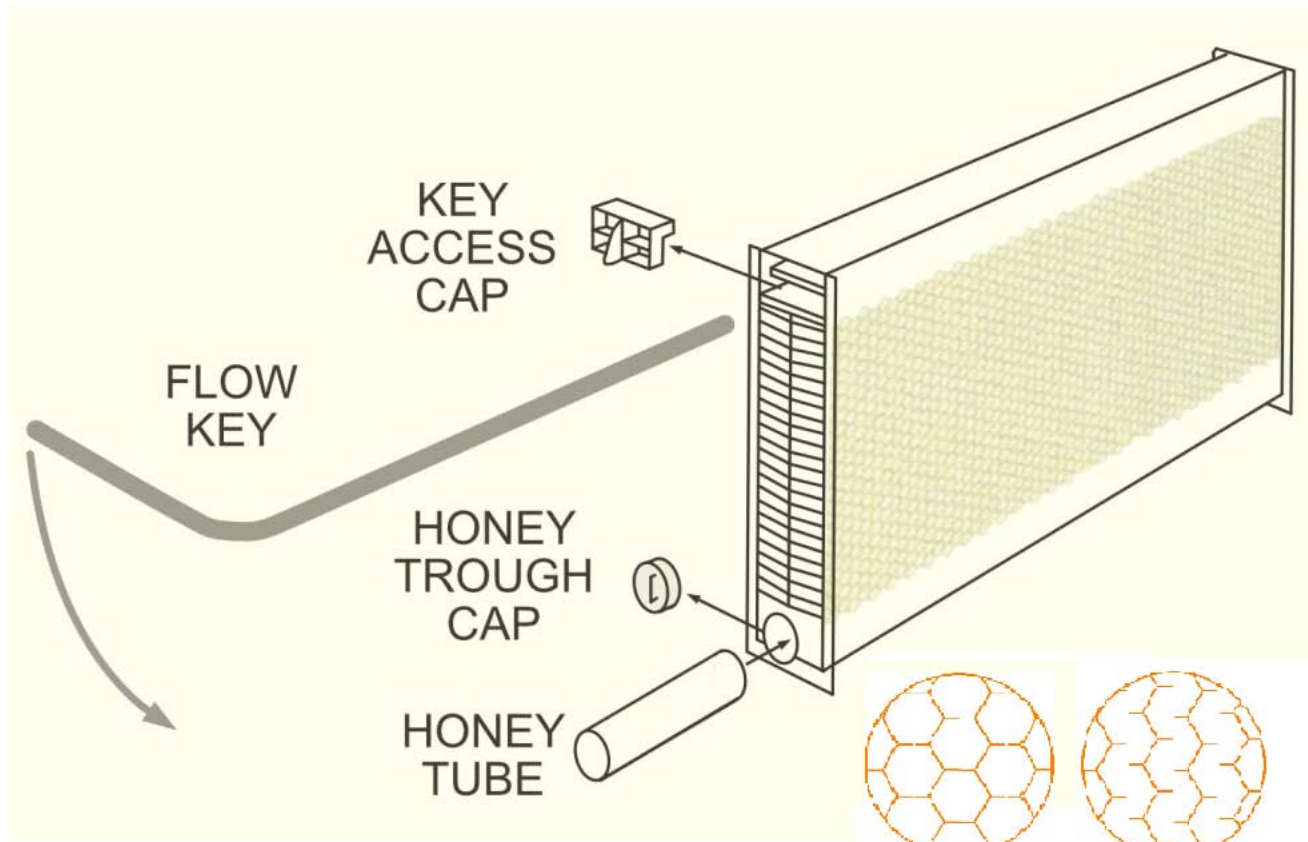
- Invented by Stuart and Cedar Anderson from Australia
- Designed to extract honey directly from hive
 - Saving time
 - Less impact to bees
- Utilizes split-cell plastic foundation that 'opens' to allow honey to flow out of frame



Flow Hive



Flow Hive Frame



Cross Section of Closed and Open Flow Frame

Flow Hive PROs

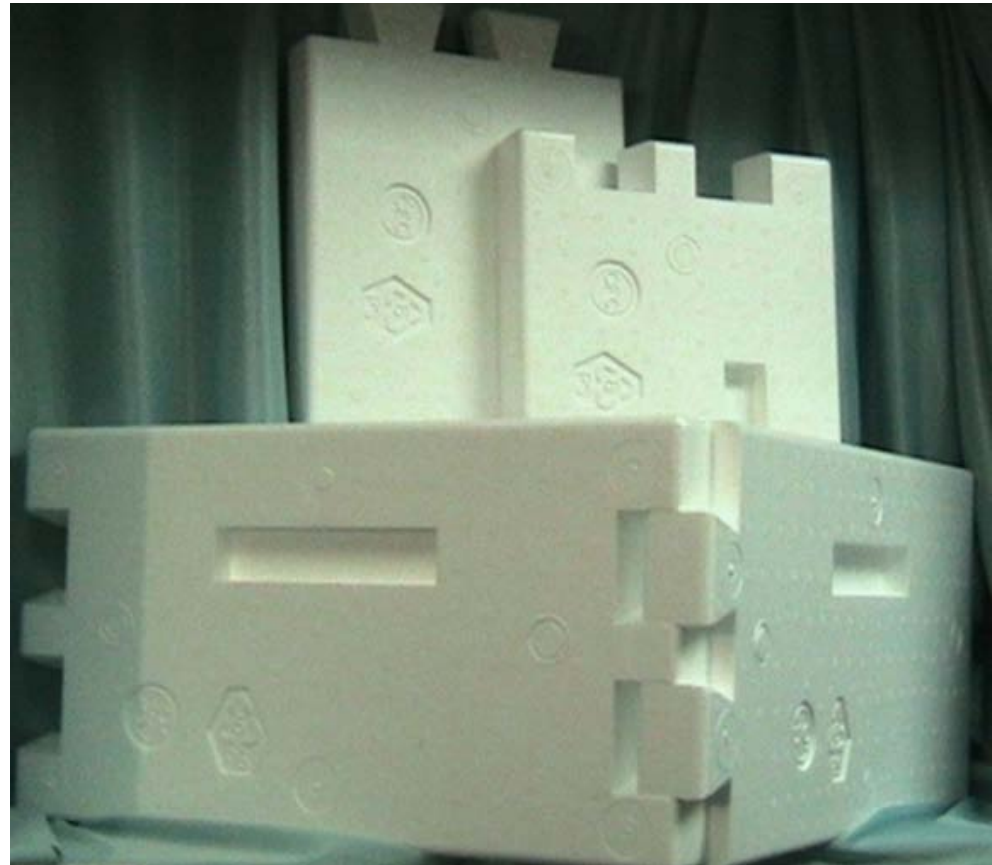
- Very Attractive hive
- Honey extraction requires less time and physical effort
- Can be less invasive to bees when extracting honey

Flow Hive CONs

- Expensive
- Plastic Parts, bees can be reluctant to embrace plastic
- Unrealistic view of beekeeping
- Only one brood box
- Must use queen excluders to keep queen out of flow frames
- Hive produces extracted honey only (no comb)
- No beeswax harvest
- No handles for lifting/repositioning
- Still may have to remove frames to verify cells are capped prior to extracting
- Cannot use super for winter honey storage (winter stores)
- Hobbyist hive only

Polystyrene Hive

- Langstroth Hive constructed of polystyrene vs wood components



Polystyrene Hive



Polystyrene Hive PROs

- Lightweight
- Excellent insulation properties
 - Increases honey production
- Will not rot
- Easy to sanitize as necessary
- Easy to assemble

Polystyrene Hive CONs

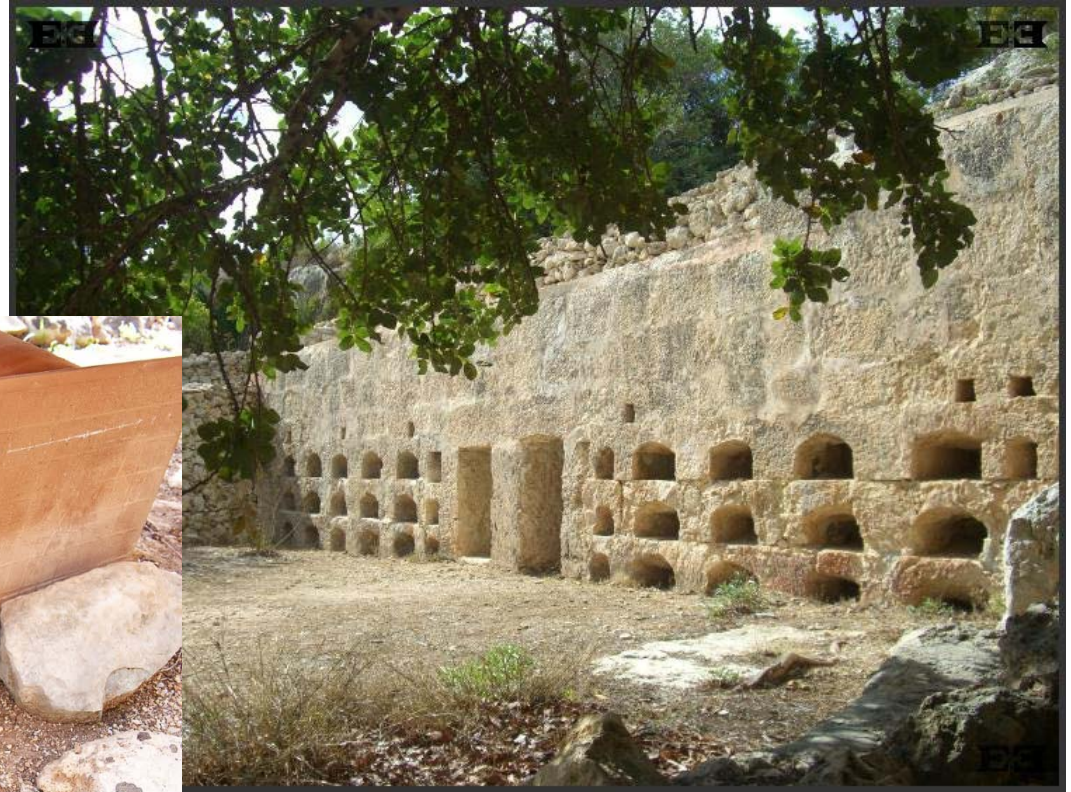
- Cost is a factor; can be more expensive than wooden hive bodies
- Lack of standardization among manufacturers
- Must paint inside as well as outside of hive bodies
- Susceptible to damage by insects/animals
- Not as durable as wood
- Difficult to repair if broken
- Must use caution when prying with hive tools
- Susceptible to wind damage due to lightweight
- Not attractive

Horizontal Beekeeping History

- Egyptians -- Hollow clay cylinders ~1500 BC
- Romans -- Horizontal cork cylinders
- Early Europeans -- Horizontal hollow logs
- Various Cultures have used and continue to use horizontal methods to hive bees
 - Asia
 - Africa
 - South America



Horizontal Beekeeping History



Horizontal Hive



Horizontal Hive



Horizontal Hive



Horizontal Hive



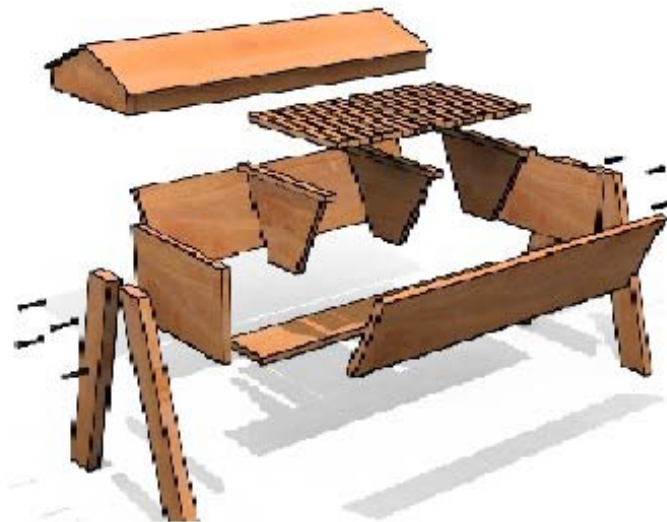
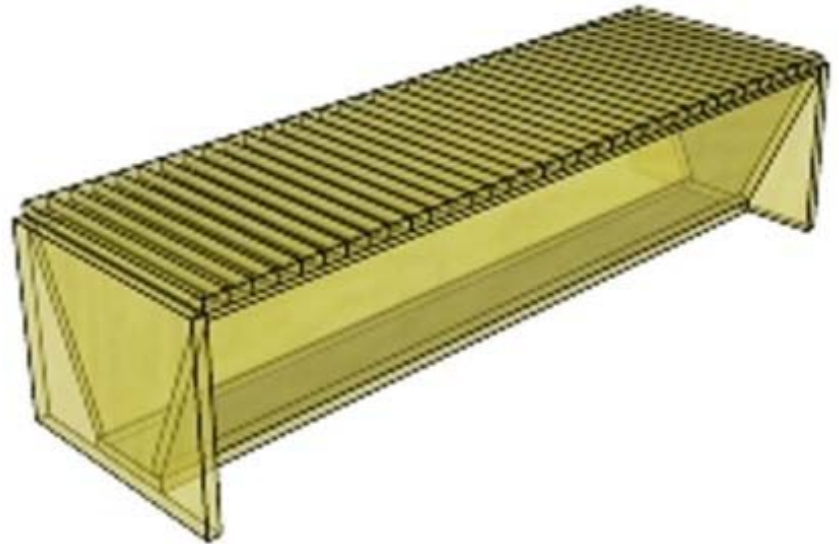
Horizontal Hive PROs

- Cost - you can make your own
- Easy on your back - once in place, all that is needed to lift is one frame
- Harvest Honey in standard frames
- Hive Management in standard frames
- Entire brood chamber has screened bottom board

Horizontal Hive CONs

- Hives can be of different size - no standardization
- Once in place, hive can be hard to move by hand
- Ventilation not as efficient as with vertical hives

Top Bar Hive



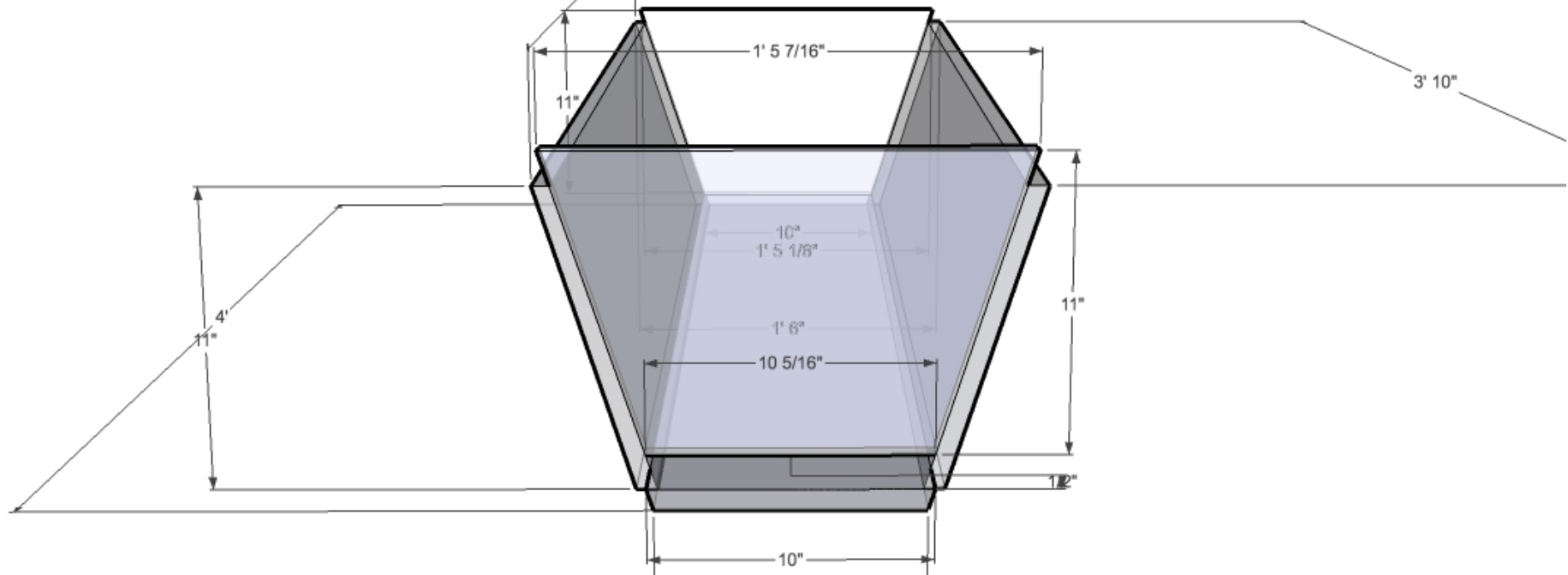
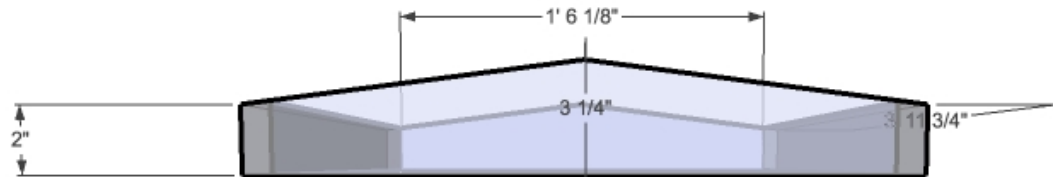
Kenyan Top Bar Hive



Tanzanian Top Bar Hive



Top Bar Hive



Top Bar Hive



Top Bar Hive PROs

- Cost; you can build your own
- Easy on your back; weight of one frame – 7 lbs
- Height protects colony from predators; hard to tip over
- Less disruptive to bees
- Optional viewing window is educational
- Brood chamber has screened floor
- Less equipment to store in winter
- Higher price for Comb Honey
- No Extractor equipment needed
- Generates more beeswax
- Facilitates comb rotation
- Natural beekeeping; bees build the broodnest their way

Top Bar Hive CONs

- Hives can be of different sizes; no standardization
- Hard to move once set up; cant be disassembled
- Harvest honey by hand; less honey to harvest
- Hive management; natural comb not in frames; comb is fragile
- Ventilation not as efficient as vertical hives
- Must monitor for straight comb
- Build your own; very few commercial hives for sale
- Few mentors
- Low resale value
- Not suitable for large-scale migratory operations
- Takes longer to work

Selecting your hive style

You have many, many options!



Tools and Protective Equipment Required to Get Started

- Bee suit or light color clothing
- Veil
- Gloves
- Smoker
- Hive Tool
- Bee Brush
- Frame Grippers



1st Year Goals

- Observe and learn
 - Learn from the bees
 - Research, read, attend bee school, etc
- Inspect hives periodically
 - Use checklist and keep records
- Facilitate growth and expansion of colony
 - Add deeps/supers commensurate with colony size
 - Ensure bees have enough space to grow from ~11,000 bees to 50,000 ~ 60,000 bees during spring/summer
- Help the bees survive their first winter
 - The bees will need 60-70 pounds of honey for winter
 - May have to provide supplemental feeding
 - Normally no surplus for beekeeper during 1st year



Wrap up

- There are many different types of hive to choose from; do your research and decide which type will be best for you
- Procure and assemble your hive parts
- Buy tools and protective equipment
- Increase your knowledge – attend Bee School
- Enjoy yourself and the world of beekeeping!

Questions