



Sunshine Hill Farms, LLC

Bee Equipment Considerations - EAS | JUL 27, 2026



Equipment Choices

Bee Equipment Considerations



15+ year hobbyist beekeeper – 15 to 20 hives

EAS Master Beekeeper

Past President – NWNJBA

Day Job > Medical Affairs IT, Bristol Myers Squibb

Beekeeping Podcaster

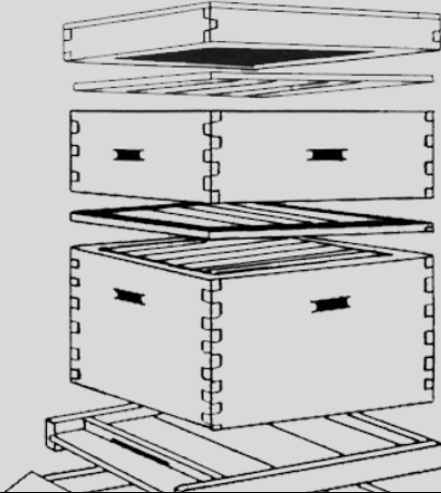
Managed Mentoring Program for Getting Started in Beekeeping

INTRODUCTION
– Kevin Inglin

Our Home Yard

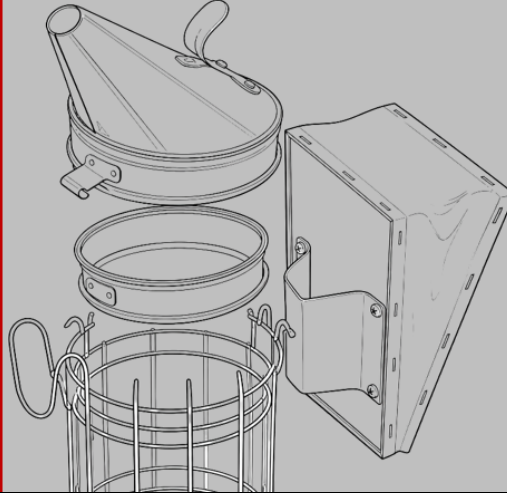
☐ **Woodenware**

- Size, shape, form, design, and more



☐ **Beekeeping Equipment**

- Smokers, hive tools, and all that is employed



☐ **Protective Equipment**

- Suits, veils, gloves, and your choices

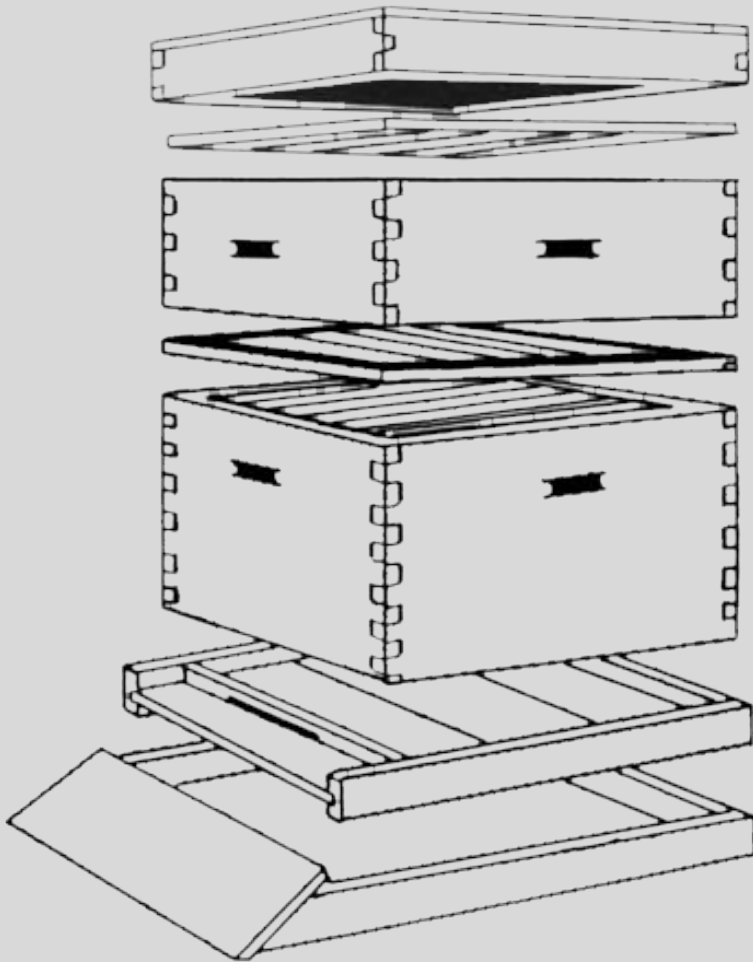


CATEGORIES

MAJOR EQUIPMENT CHOICE CATEGORIES

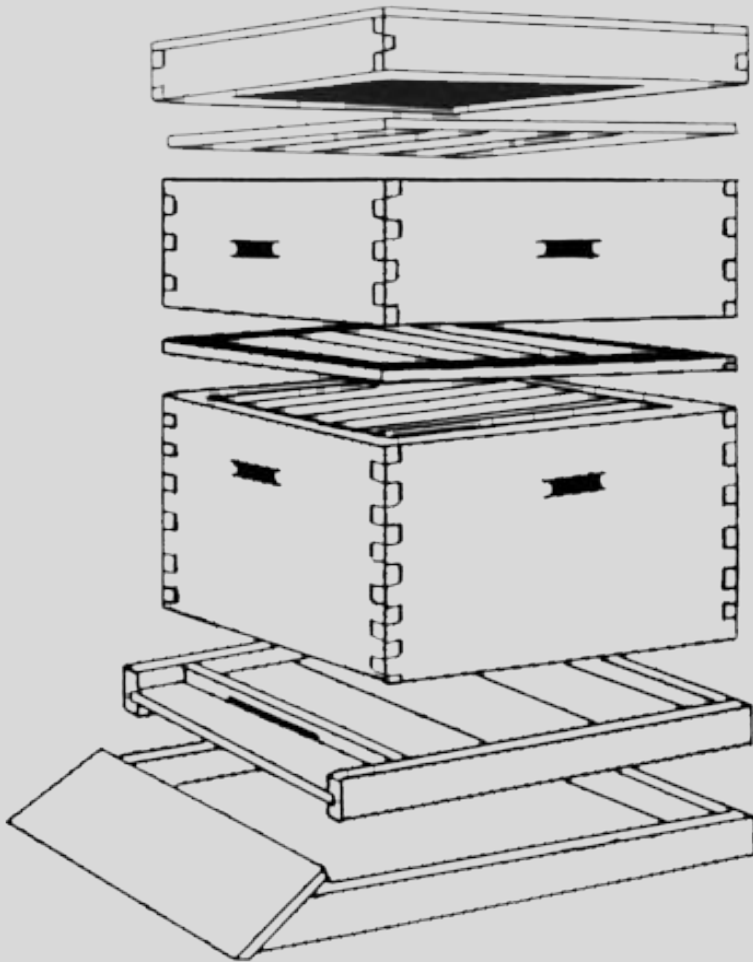
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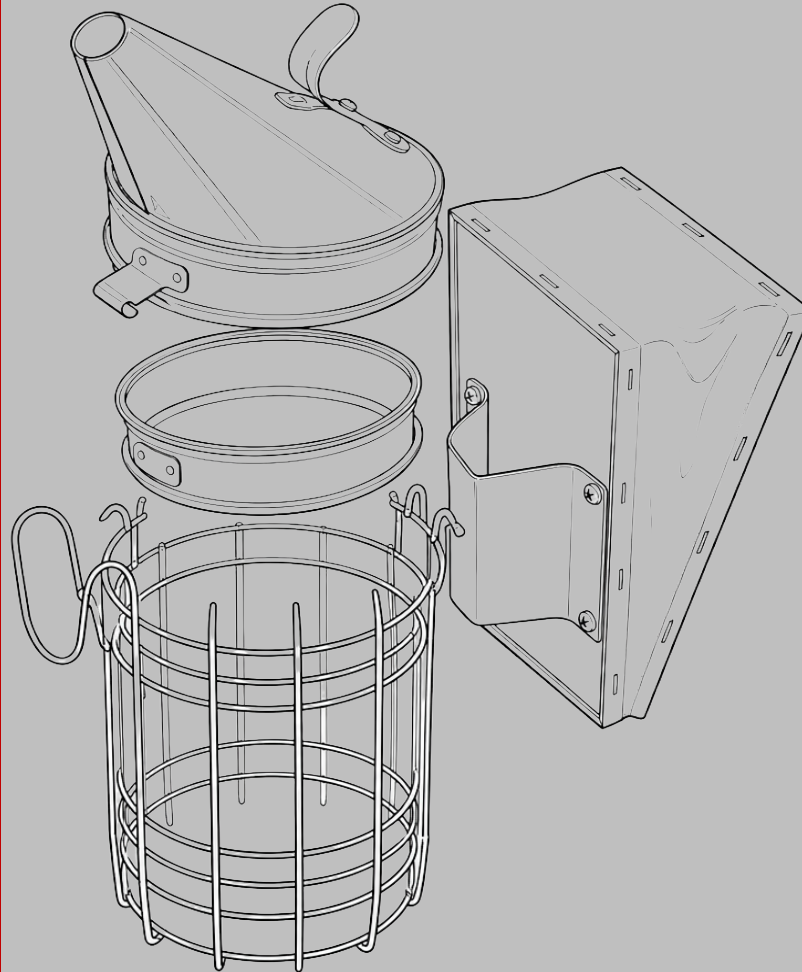
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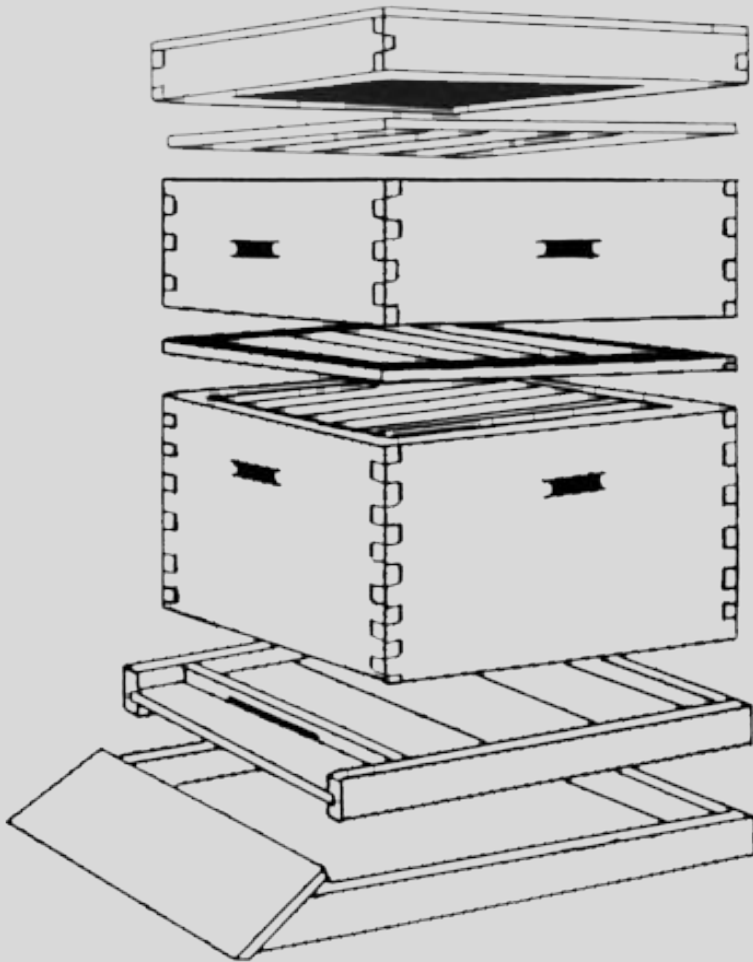
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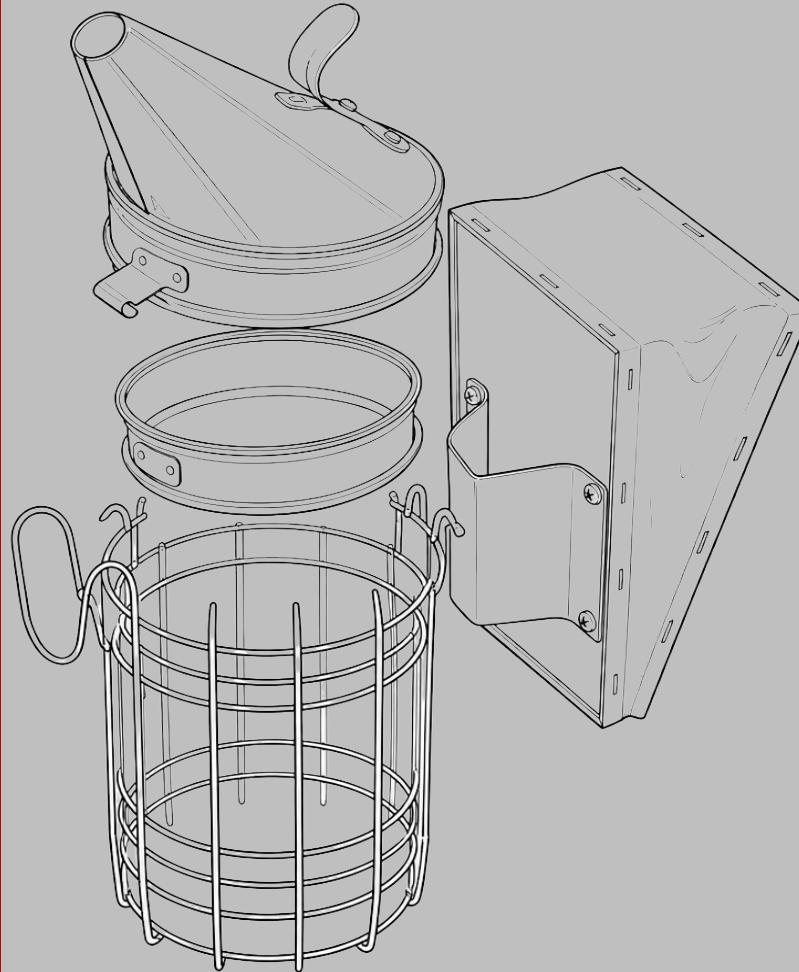
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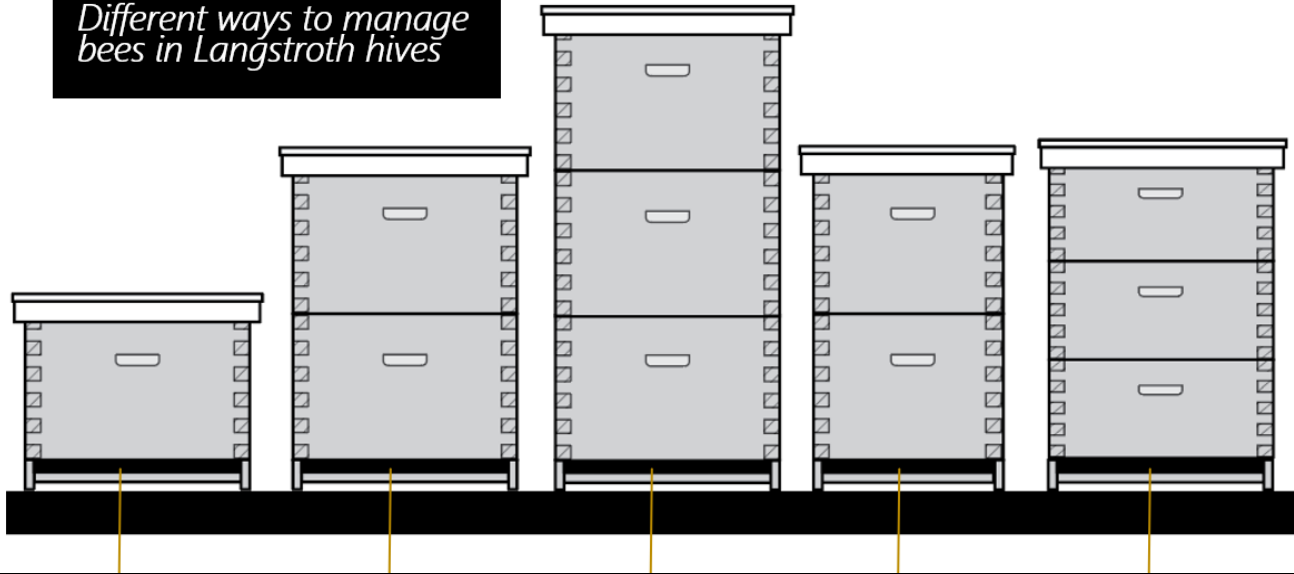


□ **Protective Equipment**

- Suits, veils, gloves, and your choices



Different ways to manage bees in Langstroth hives



WOODENWARE

FORMAT CHOICES

Woodenware

EQUIPMENT CHOICES

Langstroth Hives are the Norm

- **Several **TYPES** of equipment**
 - Langstroth
 - Flow Hive, Keeper's Hive, Long Lang
 - Top Bar, Warre, Layens, Others
- **There are **STYLES** to consider**
 - Single Deep, Double Deep, Triple Deep
 - Treatment, Treatment Free

Beekeepers Have Choices

- **And a Diversity of Ideas**
 - Start mainstream, *or....*
 - Start with a different approach

Woodenware

EQUIPMENT CHOICES

UNDECIDED?

□ The case for **LANGSTROTH**

- Learn the craft with Langstroth boxes.
 - Even if you want to use other equipment, we recommend that you learn beekeeping and biology on Langstroth equipment
 - Once you have beekeeping acumen; then go alternative
- Fellow beekeepers will know how to use Langstroth hives.
 - Other form factors are considered niche
 - Instruction is usually supported through dedicated communities

Woodenware

EQUIPMENT CHOICES

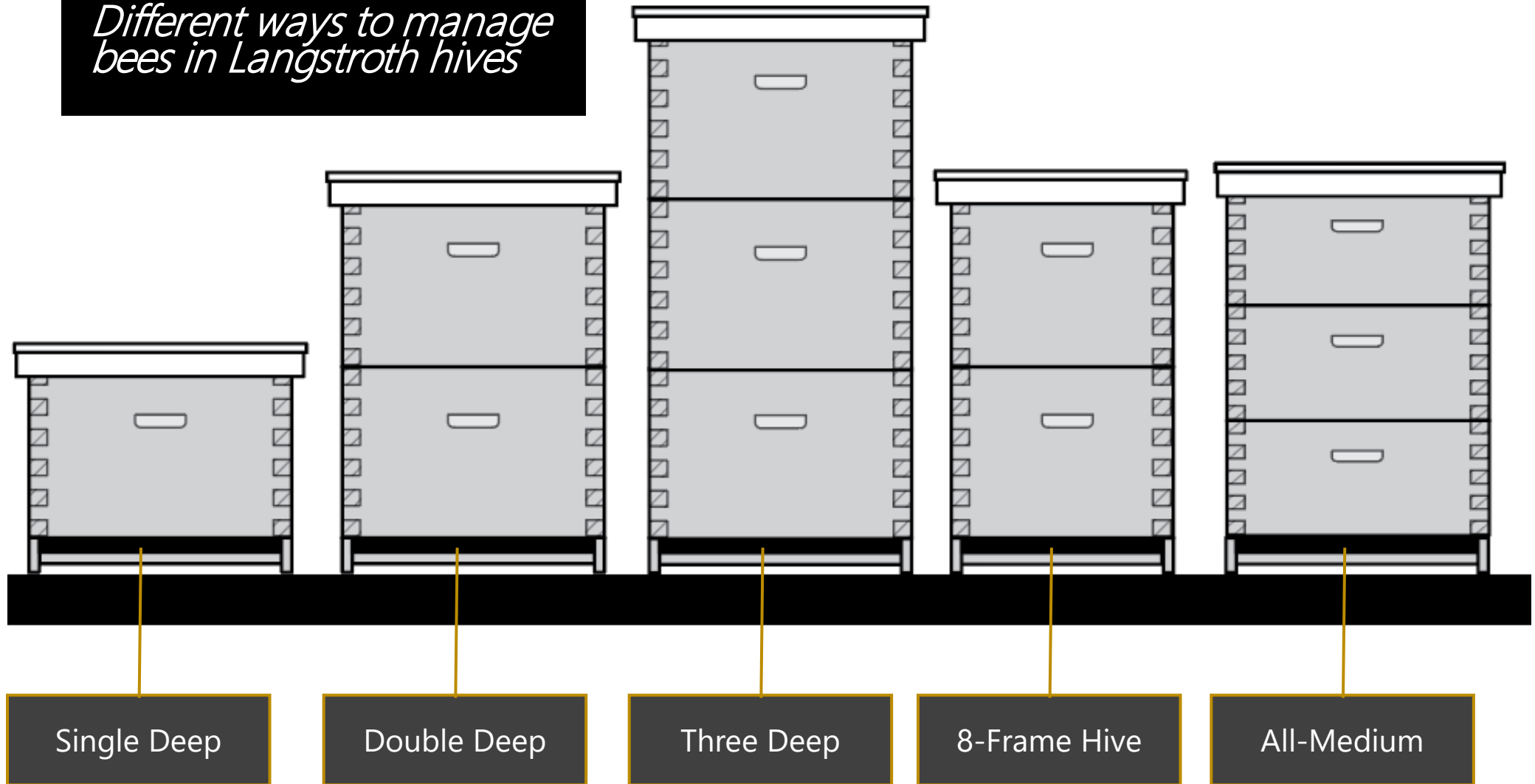
What if you already chose something else?

- **Evaluate different ways to proceed**
 - Stay the course, learn the craft on what you chose
 - Buy books, join communities, experiment
 - Do Both
 - Setup a langstroth along with what you have and use both
 - You can be conventional and a little different, while learning
 - Go Langstroth Now
 - Put your equipment aside and switch to conventional Langstroth boxes
 - Learn beekeeping then use that to take up your alternative down the road

EQUIPMENT CHOICES

MANAGEMENT STYLES

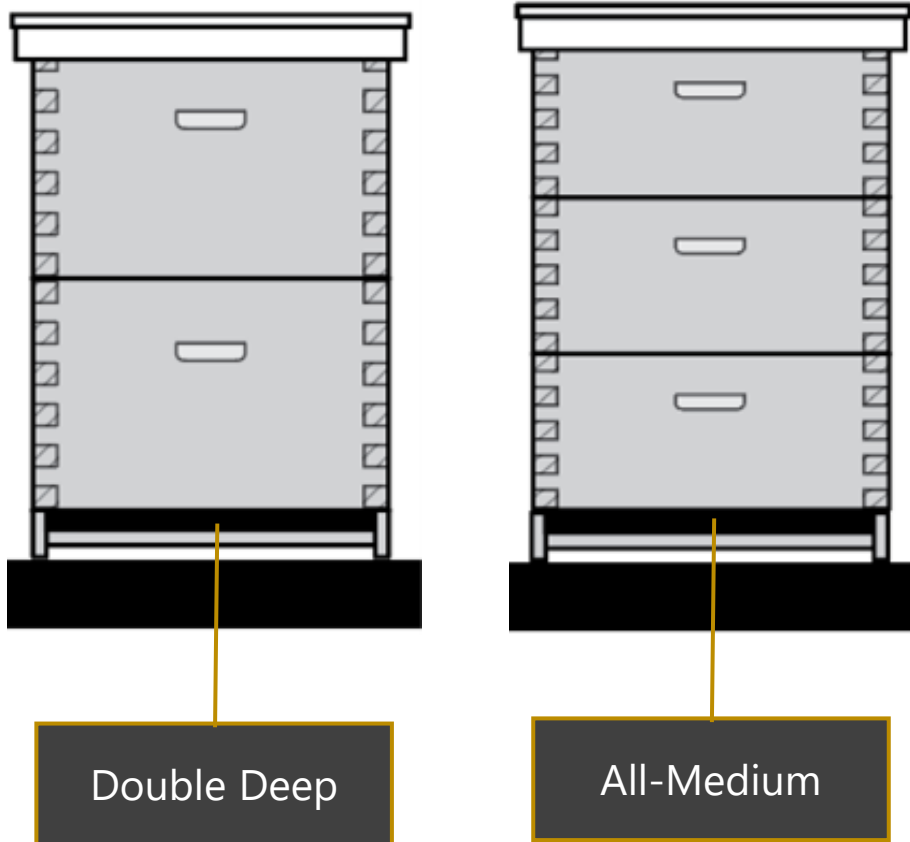
Different ways to manage bees in Langstroth hives



EQUIPMENT CHOICES

HIVE CONFIGURATIONS HAVE 'EVOLVED'

Different ways to manage bees in Langstroth hives



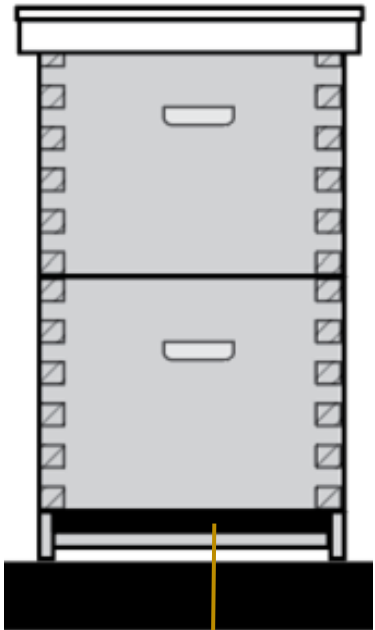
Recommendations

- **Conventional Langstroth**
 - Two Deeps & Three Mediums
 - **Three mediums is a winner**
 - All the same size frames
 - Same boxes – interchangeability
 - Weight is a very large benefit for going all medium
 - Some negatives, but worth it
 - More frames, less configuration

EQUIPMENT CHOICES

HIVE CONFIGURATIONS HAVE 'EVOLVED'

Different ways to manage bees in Langstroth hives



8-Frame



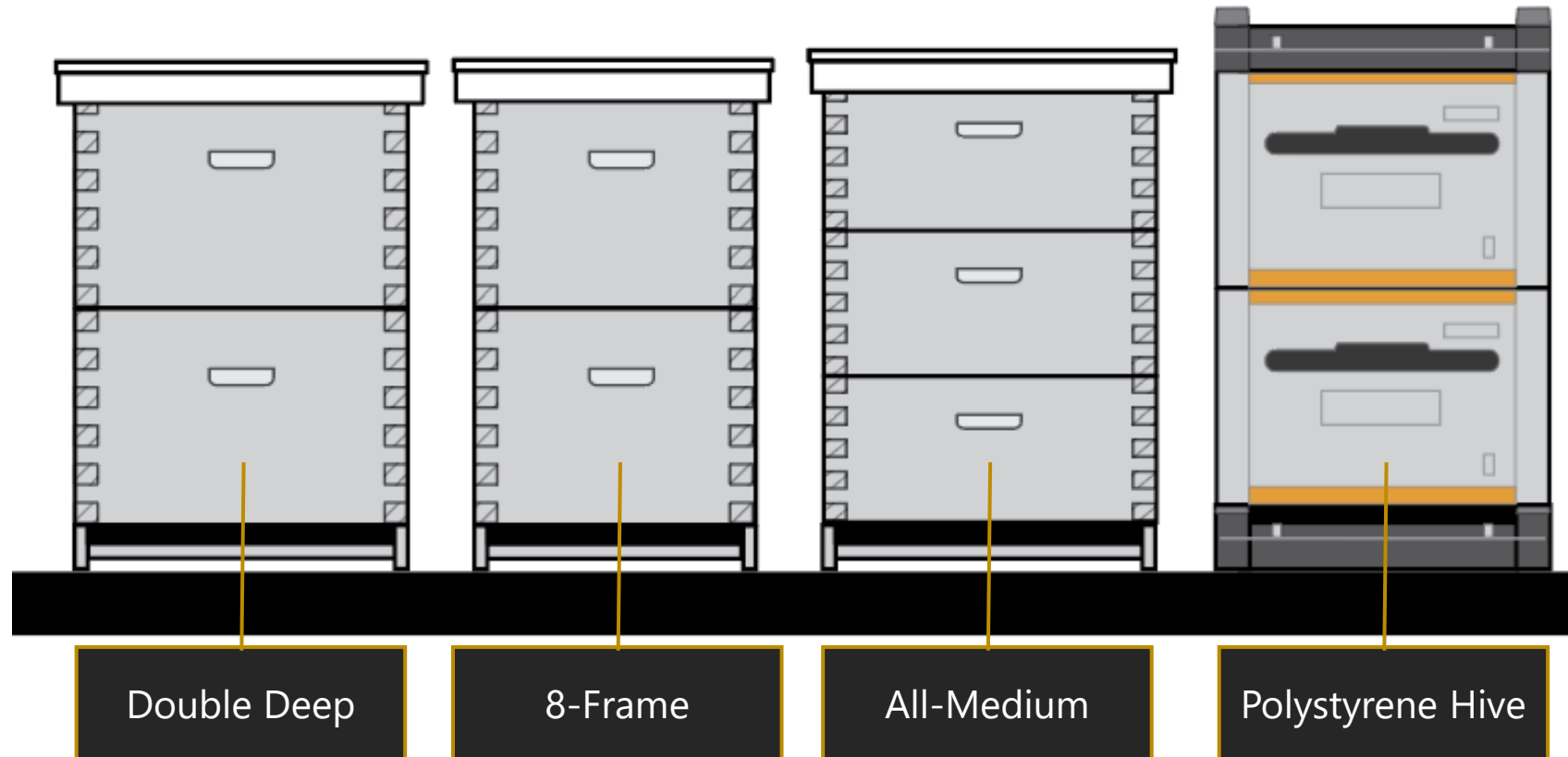
Polystyrene

Recommendations

- ☐ **8-Frame Langstroth**
 - ☒ Good with some caveats
 - 8-frame requires some acumen
- ☐ **Don't overlook Plastic & Poly**
 - ☒ Insulative properties are real
 - Many new choices in the marketplace these days
 - ☐ Apimaye, Bee Box, Superior Bee, HivelQ, Lyson, Hive365

EQUIPMENT CHOICES

HIVE CONFIGURATIONS HAVE 'EVOLVED'



Four hive setups are all good choices: Pick your personal favorite

Make good choices when buying frames

- Buy frames **with your woodenware**

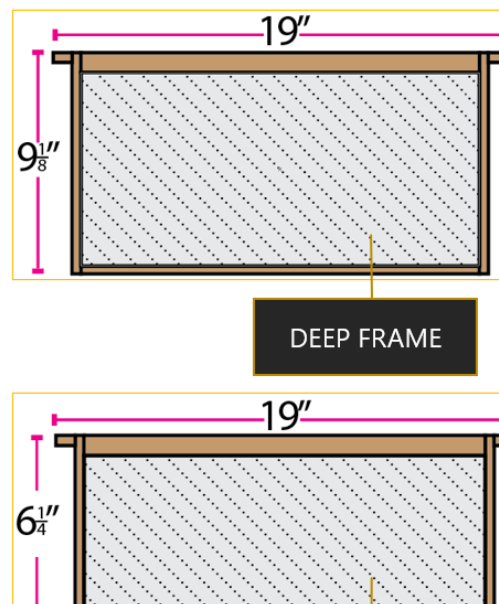
- Frame dimensions vary by manufacturer
 - When frames do not match the hive box, bad things happen due to violations of bee space

- Plastic vs. Wax

- Plastic is common and suitable
 - Plastic should be purchased from a reputable source, well waxed, and use quality plastic
- Wax is a more traditional approach

FRAMES & FOUNDATION

Frame Choices and Foundation

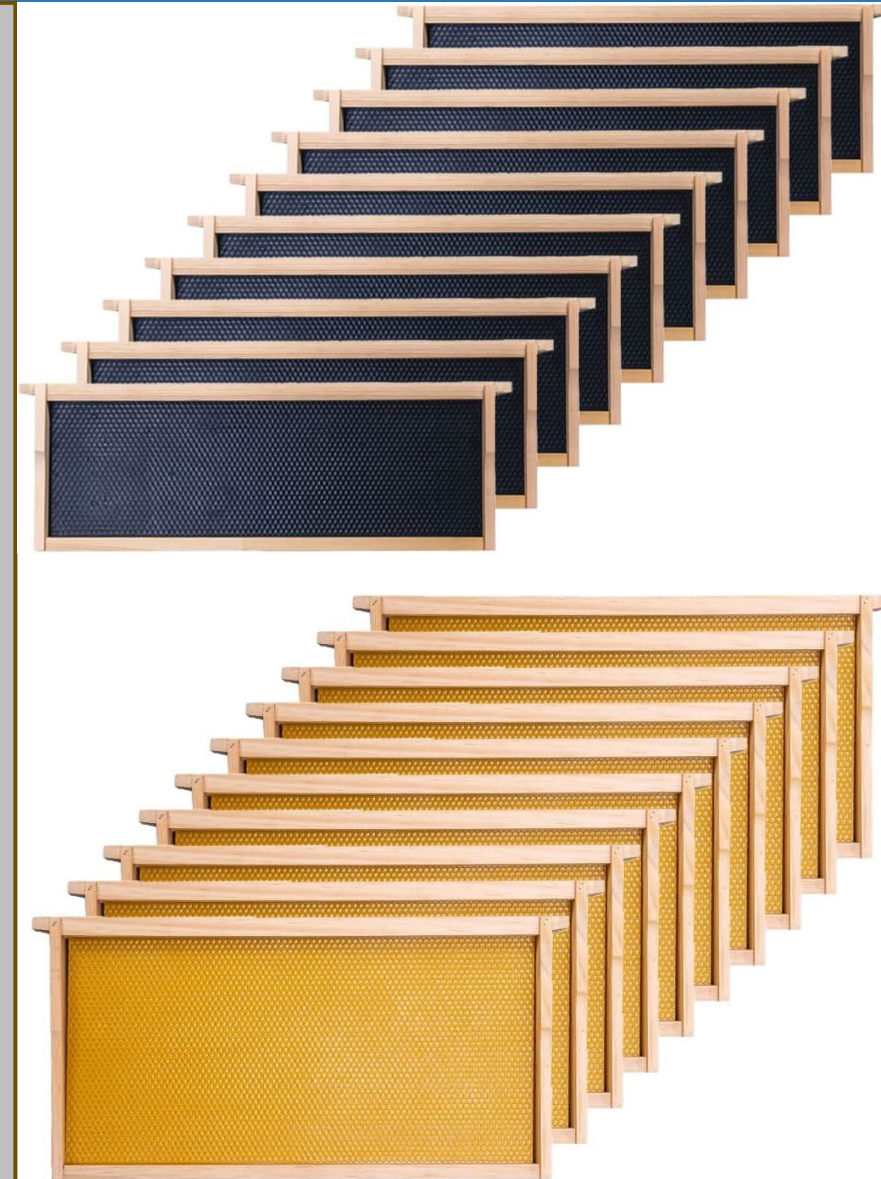


EQUIPMENT CHOICES

FRAMES ARE AN IMPORTANT CONSIDERATION

Frame Designs

- **Frames are often wooden bars designed to contain foundation sheets**
 - Designs vary from manufacturers
 - Top bar designs, side bar designs, bottom bar, etc.
 - Shape, size, wood type – its all manufacturer discretion – assembled, unassembled
 - Features vary based on foundation
 - May have holes for foundation pins
 - May have cleats for wax foundation
 - Wood with plastic foundation is now the standard for beekeeping

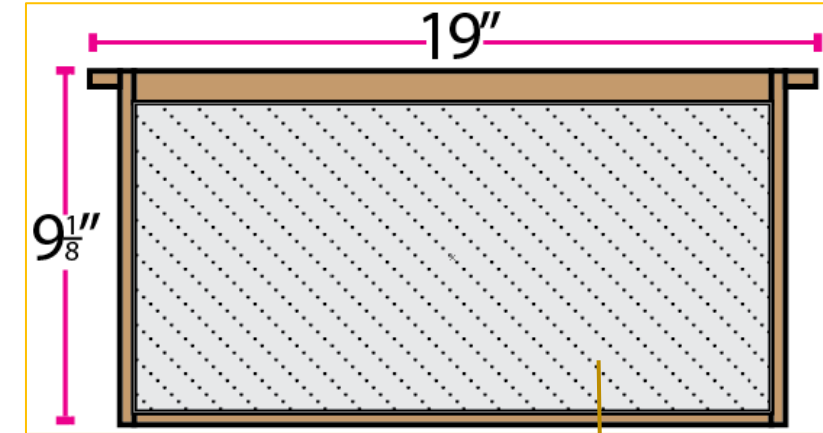


EQUIPMENT CHOICES

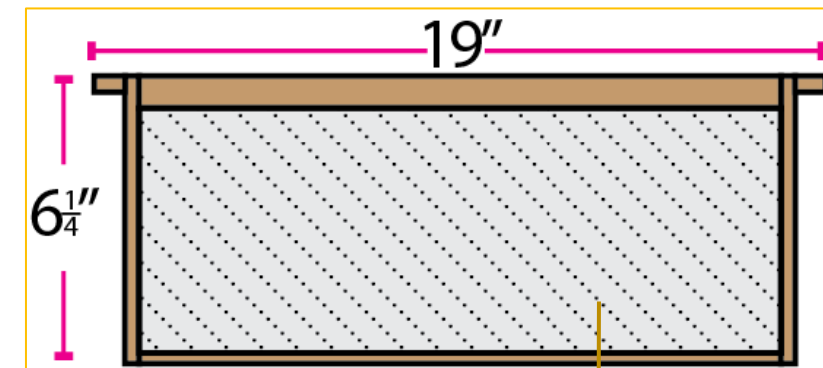
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Make good choices when buying frames

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- Plastic vs. Wax
 - Plastic is common and suitable
 - Plastic should be purchased from a reputable source, well waxed, and use quality plastic
 - Wax is a more traditional approach
 - Wax foundation is a solid choice, but it is more work and requires assembly



DEEP FRAME



MEDIUM FRAME

EQUIPMENT CHOICES

FRAME MATERIALS

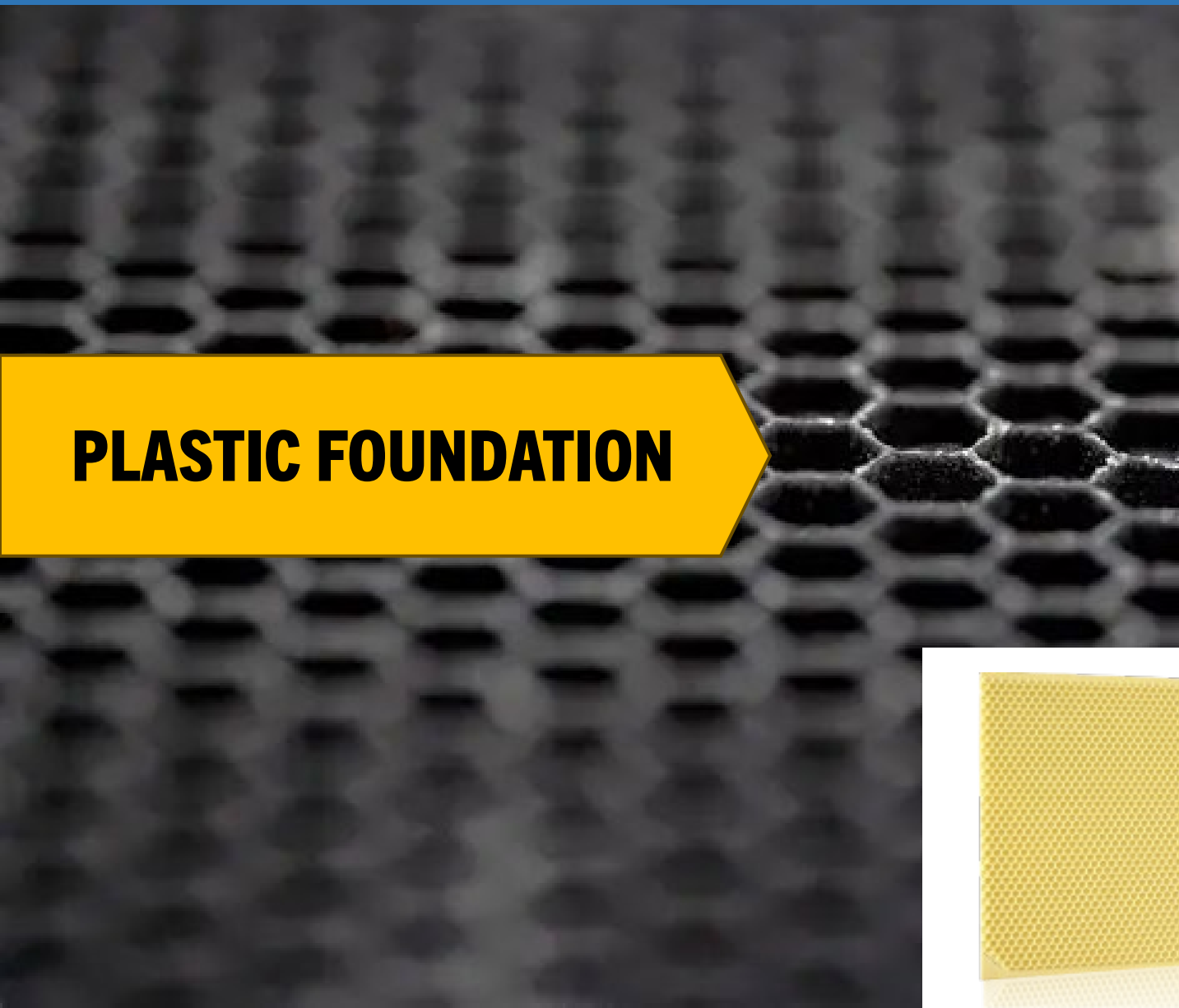
Full Plastic Frames

- **Generally, not a good idea**
 - Warp, sag, and do not hold up over time
 - For example, the grooves are very bad design
 - New offerings are appearing in the marketplace
 - Recently a new generation of frames designs are in the marketplace. It is unknown if they will perform any better

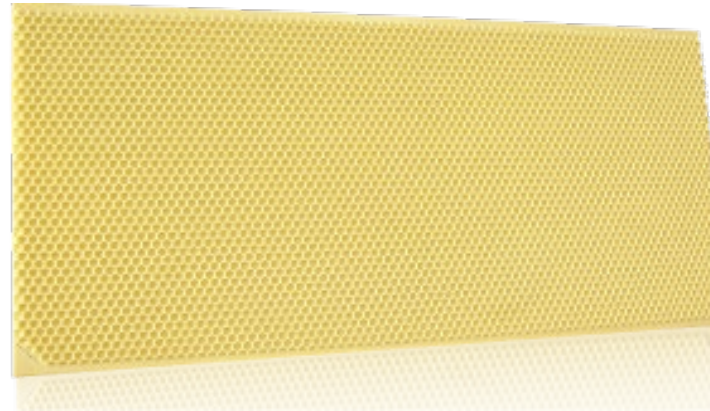


EQUIPMENT CHOICES

FRAMES ARE AN IMPORTANT CONSIDERATION



PLASTIC FOUNDATION



RITE-CELL[®]

- DEEPER CELLS
- HEAVIER CORE
- SHARPER CELL EDGES

EQUIPMENT CHOICES

FRAMES ARE AN IMPORTANT CONSIDERATION



For more on this
come to my talk on
wax and wonky comb

□ Wax Coatings

- Buying frames from reputable suppliers ensures 'good' wax
 - Frames can be made better (if you feel they need it) by giving a light coat of wax
 - Additionally, if you choose plastic, check the coatings as the season goes on

Hive Stands

□ These are important

- Individual Hive Stands
 - Many varieties are available
 - Individual hive stands also save your back
 - You can stand alongside and lift well
 - No twist and lift required like when on rails



APIARY OPTIONS

Additional items/choices to consider

EQUIPMENT CHOICES

MANAGEMENT STYLES

Management Styles are widespread

- **Beekeepers have management styles options**
 - Your beekeeping styles and management practices have a play in the equipment you use
 - Smokers, Hive Tools, Queen Excluders, Quilt Boxes, Hive Insulation, Mite Monitoring And Testing Equipment, Queen Marking, Smoker Fuels, Varroa Management Treatment Products, Shims, Honey Harvesting Gear, Feeders, Frame Jibs, Carts, etc.
 - What you choose will need to support your operation
 - There is often two branches: **Required**, and **Optional**
 - It is **personal preference** as to how you proceed for your situation

EQUIPMENT CHOICES

QUALITY OF GOODS PURCHASED

Buy Quality Goods

□ Middle of the Road or Better

- Buy good equipment – especially for the woodenware and hive goods
 - Hive Equipment is an investment
 - When it comes to buying equipment, costs can add up quickly; Do consider quality....
 - Hive equipment generally lasts for many seasons, especially if better quality woodenware is selected up front.

Beekeeping is hard enough without dealing with equipment that fails as the seasons pass. When possible, making a larger initial investment pays off in reliability and ease of use.

EQUIPMENT CHOICES

HIVE BENCHES AND HIVE STANDS

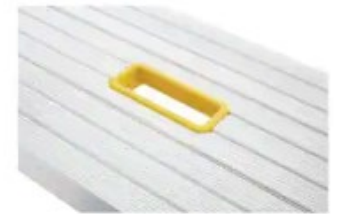
Hive Benches

□ These are important

- Hive benches negate setting equipment on the ground
- This is very helpful for your back
 - You do not have to lift heavy items while bent over
 - You can lift with your hips and legs



GORILLA LADDERS™
EXCLUSIVELY AT 



▶ PROJECT ESSENTIALS

The Aluminum Slim Fold Work Platform is a necessity on any project. The 47 inch platform provides an extra long work space. With a slim fold design measured at 3.25 inch deep, the Aluminum Slim Fold Work Platform stores razor thin, and will become the go-to for all of your projects.

▶ INTEGRATED HANDLE

One handed handle helps make transportation quick and easy.



▶ EXTENDED WORKSPACE

Extra long 47" x 12" workspace with slip resistant tread for comfort

▶ SAFETY

Non-slip tread and oversized non-marring feet improve stability

▶ EASE OF USE

Automatic locks engage when legs unfold and keep legs in place



EQUIPMENT CHOICES

HIVE BENCHES AND HIVE STANDS

Hive Stands

- **These are important**
 - Individual Hive Stands
 - Many varieties are available
 - Individual hive stands also save your back
 - You can stand alongside and lift well
 - No twist and lift required like when on rails
 - Allow for apiary layout flexibility



☐ Smoker

- Secure a high-quality smoker
 - High quality baffle and sturdy construction
 - Features abound
 - ☐ Wire cage, size differences, baffle materials
- Size preference: Consider **Medium+**
 - Medium sizes or larger are best
 - ☐ Most backyard beekeepers can get through management sessions with a medium smoker
 - ☐ A medium or larger smoker can stay lit for over an hour when handled well



FUNDAMENTAL EQUIP.

The basic equipment for your kit

EQUIPMENT CHOICES

BEEKEEPER KIT EQUIPMENT

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EQUIPMENT CHOICES

BEEKEEPER KIT EQUIPMENT

☐ **Pine Needles (Straw)**

- Pine needles are an abundant high-quality fuel for your smoker
 - Other options are possible
 - ☐ Burlap, Cardboard,
 - Stay way from pellets
 - ☐ They collect moisture, are hard to light, and in our experience don't make very good fuel for smokers

Poll – Who likes Pine Needles?

- Let's see a quick show of hands:
- Who uses Pine Straw here?



EQUIPMENT CHOICES

BEEKEEPER KIT EQUIPMENT

☐ **Stick Lighter**

- The most common tool used to light smokers
- Get a full complement of them to keep in your kit



EQUIPMENT CHOICES

BEEKEEPER KIT EQUIPMENT

☐ Butane Torches

- Some beekeepers like to use butane torches
 - Ones you might use in the kitchen to make Crème Brûlée
 - Require canisters to fill
 - ☐ Not as easy to operate but flame with a button click



EQUIPMENT CHOICES

BEEKEEPER KIT EQUIPMENT

☐ Hive Tools

- This is a traditional hive tool
- It is the backbone of hive work
 - Learn proper hive tool techniques
- Hive tools are **low cost**:
 - **Buy extra hive tools**
 - **Buy bright colors**
 - ☐ If you drop one in the grass and hit it with a mower, you will know that bright colors are beneficial



EQUIPMENT CHOICES

BEEKEEPER KIT EQUIPMENT

□ “Other” Hive Tools

- There are many different styles
- Some beekeepers like alternative versions for their different qualities
- Hive tools are **low cost**
 - This often means you can buy alternative styles and try them out as it is not expensive to do so
 - Understand and learn how to use them and their special features



EQUIPMENT CHOICES

BEEKEEPER KIT EQUIPMENT



☐ **Entrance Reducers**

- Constrain the entrance opening down for various management practices
 - Close it for defense reasons, robbing, to conserve heat, or take it off so it is wide open
 - ☐ Wooden one is traditional, metal ones are a new marketplace option
 - Metal ones can be taped off with 'blue tape' and bees will chew the holes out if they want to open the hive entrance more. They can also be taped closed for robbing events

EQUIPMENT CHOICES

BEEKEEPER KIT EQUIPMENT



☐ Hive Feeders

- Various types are available
 - Two more popular options are **top feeders** and **internal feeders**
 - **Top Feeders:** Good choice for high volume food delivery
 - ☐ Use during warm periods where the content will not get chilled
 - ☐ You do not have to open the hive to feed the bees

EQUIPMENT CHOICES

BEEKEEPER KIT EQUIPMENT



☐ Internal Hive Feeders

☒ Internal sugar syrup delivery

☒ **Internal Feeders:** Good choice for cooler periods

- ☐ Keeps the food close to the bees inside the hive equipment
- ☐ Residual warmth of the bees may help to keep the liquids warmer – which keeps it viable for bees to use during cooler weather
- ☐ Requires you to open the hive to feed the bees
- ☐ Can be messy, and bees sometimes drown
 - Get ones with ladders for the bees to walk down

☒ Quite popular and see widespread use

EQUIPMENT CHOICES

BEEKEEPER KIT EQUIPMENT



❑ Other Hive Feeders

- The internal and top feeders are very common feeder types
 - There are however many different alternatives available in the marketplace
 - Some work better than others – so learn what is available and use what suits your needs – this includes top feeders for feeding solid foods (fondant, sugar, etc.)
- ❑ Avoid front of the hive feeders (like the first one) so you do not have robbing problems

EQUIPMENT CHOICES

BEEKEEPER KIT EQUIPMENT



☐ Hive Monitoring Equipment

- Varroa Sampling Device & Equipment
 - Solid choice for your kit
 - Well engineered tool
- Supporting Equipment
 - A pan for sampling
 - A 1/2-cup measure
 - Rubbing Alcohol or other substrate





- **Full Envelope Jumpsuits**
 - Full head to toe coverage
 - Good choice for new beekeepers
 - The most protection against stings
 - Note: no beekeeping suit offers 100% protection against being stung
 - Bees are sometimes capable of finding ways to sting through stinging through the material when it is held tight against the body during movement
 - Bees are also very capable of exploiting any suit openings left partially unzipped, a cuff that slides up, etc.



PROTECTIVE CLOTHING

Suits, Jackets, Gloves

PROTECTIVE CLOTHING

BEE SUITS, GLOVES, AND VEILS

□ **Protective Clothing**

- Clothing Choices Overview
 - Clothing choice is personal preference
 - It is often chosen with comfort and security in mind
- Different sizes are available in the marketplace
 - From children suits to a full array of adult sizes, women's cuts, etc.
- Some beekeepers simply do not want to be stung and will envelop with multiple layers
 - Others will not be concerned with an occasional sting, and therefore will use less secure options

Most beekeeping suits are white or made of light-colored fabrics

Lighter colors are cooler in the heat for the beekeeper

Honeybees are averse to dark colored materials and more prone to sting surfaces that are dark in color.

PROTECTIVE CLOTHING

BEE SUITS, GLOVES, AND VEILS



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PROTECTIVE CLOTHING

BEE SUITS, GLOVES, AND VEILS

□ Canvas vs. 3-Layer Mesh

■ Cotton Canvas

- Tightly woven cotton
- Hard for a bee to sting through
- The fabric can hold a lot of heat during warm days

■ 3-Layer Mesh

- Very good sting protection
- The bee stinger typically cannot reach the skin
 - The depth of the mesh is so deep that the stinger is not long enough to get to the skin
- Provides more efficient heat exchange
- Can be a little bulky and bunch up



PROTECTIVE CLOTHING

BEE SUITS, GLOVES, AND VEILS

□ **3-Layer Mesh**

- Used for Jumpsuits, Jackets, & Gloves
 - This material emerged just a few short years ago and is now very common
 - The material is composed of three separate layers of nylon materials
 - Fine mesh inner – Ribbed mesh center – Fine mesh outer
 - The open nature of the material allows for air to pass through
 - When there is a breeze, it helps to wick away moisture while allowing for heat to escape
 - The one downside to the design is they can be thick and bulky
 - Some beekeepers do not like how they hang on the body and new suit designs improve how they fit



PROTECTIVE CLOTHING

BEE SUITS, GLOVES, AND VEILS



- **Jacket with attached hood**
 - Full coverage from the waist up
 - Jacket with an attached hood that zips secure to the jacket through a zipper system around the neck
 - Most opt for the jacket/zip on hood combo over a full-length suit
 - It is very typical to wear a hood and jeans. Jeans are difficult for bees to sting through
 - Most bees try to sting the upper torso, and the legs are at a lower risk of stings
 - Do note that bees will sting below the waist if alarmed so there is some risk with this plan

PROTECTIVE CLOTHING

BEE SUITS, GLOVES, AND VEILS



□ **Beekeeping Pants**

- These are not very common, but they are available if you look around
 - Most opt for full jumpsuits if they want the pant protection
 - They are available in canvas or 3-Layer mesh as depicted.
- Typically, they are 'standard' lengths for 'typical' people
 - They might require alterations if you have a less than 'typical' body shape.
 - Said differently, it is unlikely that you will find them offered in different sizes and lengths – akin to how you buy jeans

PROTECTIVE CLOTHING

BEE SUITS, GLOVES, AND VEILS



□ Leggings and/or Velcro Leg and Arm Straps

- These serve to protect from bees coming up your pant or shirt sleeve
- Velcro Enclosures to tighten loose sleeves or pant legs
 - Usage of a velcro strap and strap the pant leg of their jeans
 - This technique also applies to shirt-sleeves

PROTECTIVE CLOTHING

BEE SUITS, GLOVES, AND VEILS

□ Clothing Features

- Designs and features vary widely
 - Pockets, tool holders, screen material, and other features are becoming more prevalent as suit makers look to differentiate their wares
 - Features vary from manufacturer to manufacturer so shop around
- Zip-Off Face Screens (Fencing Veils)
 - A recent design feature that is a great improvement in veil designs



PROTECTIVE CLOTHING

BEE SUITS, GLOVES, AND VEILS

Not Just White Anymore

- Suits now come in colors
 - Tans, Golds, Shades of Pink and Olive

DID YOU
SPOT IT?



PROTECTIVE CLOTHING

BEE SUITS, GLOVES, AND VEILS

Where do you get this >

- The Beekeeper Movie
 - This was a fencing uniform
 - The director wanted a more form fitting garment for Jason



PROTECTIVE CLOTHING

BEE SUITS, GLOVES, AND VEILS

Glove Designs



PROTECTIVE CLOTHING

BEE SUITS, GLOVES, AND VEILS



Traditional Gloves

- Canvas, Leather, Goatskin, etc.
 - Look for soft supple materials that are flexible and fit well
 - Thick, but not stiff and hard
 - Not always 100% sting-proof, but a good choice
- These are a good choice
 - Sometimes you will want durable protection all the way up to your elbows

PROTECTIVE CLOTHING

BEE SUITS, GLOVES, AND VEILS

3-Layer Gloves

- Very popular choice
 - Quickly becoming the material of choice for gloves
 - Several designs in the marketplace
 - Often a mix of traditional glove material and 3-layer materials



PROTECTIVE CLOTHING

BEE SUITS, GLOVES, AND VEILS

Nitrile Gloves

- Interim Glove Choice
 - Nitrile gloves afford some protection and a significant amount of dexterity
 - You can get stung through these
 - That being said, bees are often less apt to sting through this material
 - These are a good step for graduating from heavy duty beekeeping gloves to gloveless
 - They are quick to deploy and they also do a good job keeping your hands clean



PROTECTIVE CLOTHING

BEE SUITS, GLOVES, AND VEILS

Mechanic Gloves

- Seem like a good choice
 - Typically Dark in Color
 - They make them dark so they hide the grime of being a mechanic
 - **Dark colors incite bees to sting**
 - Good dexterity and reasonable sting protection
- Other Glove Possibilities
 - Gardening Gloves
 - Some gardening gloves borrow heavily from mechanic glove designs – but are in softer colors



PROTECTIVE CLOTHING

BEE SUITS, GLOVES, AND VEILS

□ Veil and Helmet Designs

- Veils come in many styles and designs
 - They can vary in levels of protection
 - Some are simply hats made from common materials, and others are substantial cloth and designed for day in and day out industry use.
 - We would encourage you to review more substantial designs.
 - Veils that employ a helmet afford more head protection than ones that only have a cloth covering.

Helmet



PROTECTIVE CLOTHING

BEE SUITS, GLOVES, AND VEILS



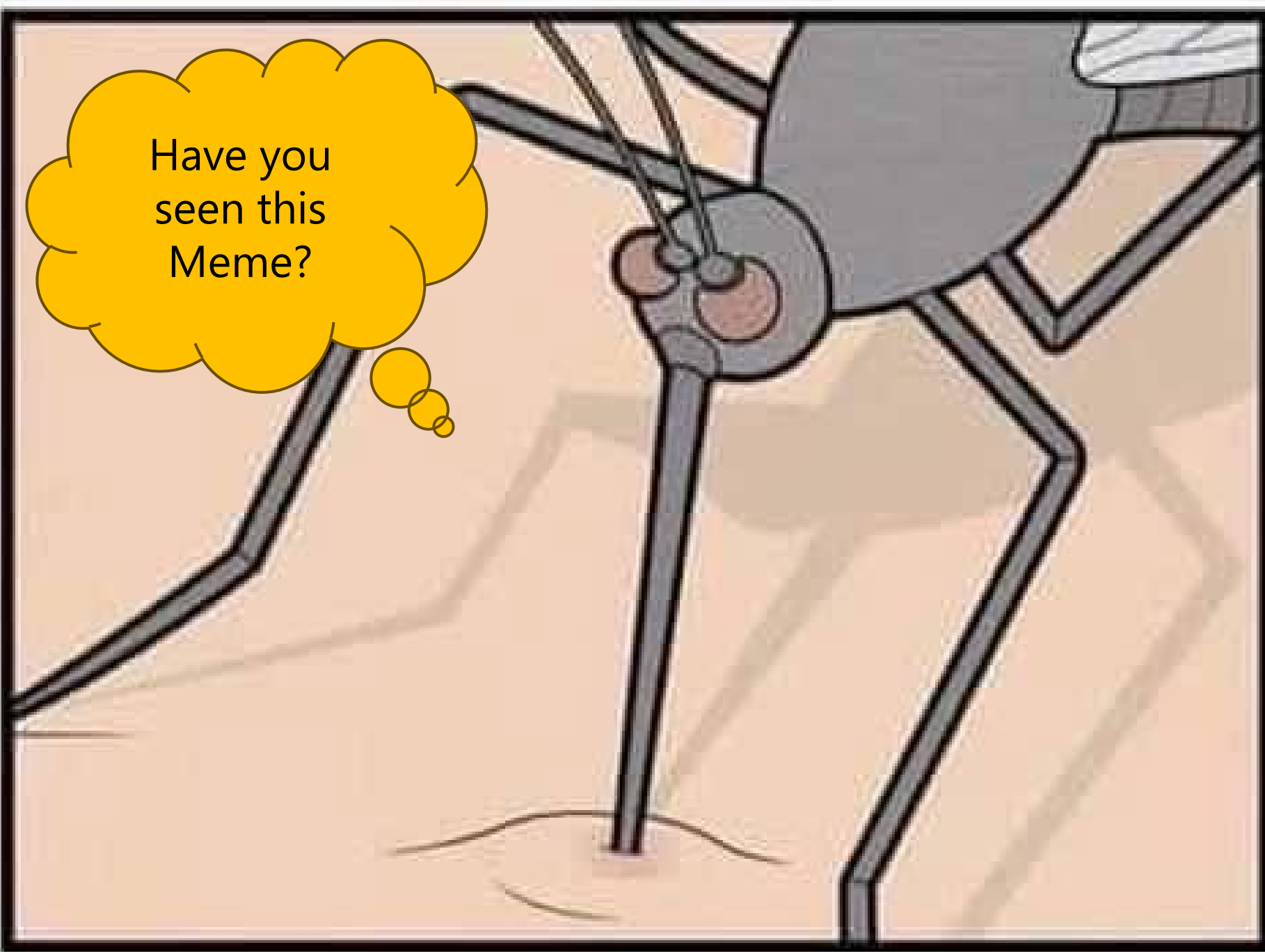
☐ **Pullover Veils**

☒ Veil with built in Vest

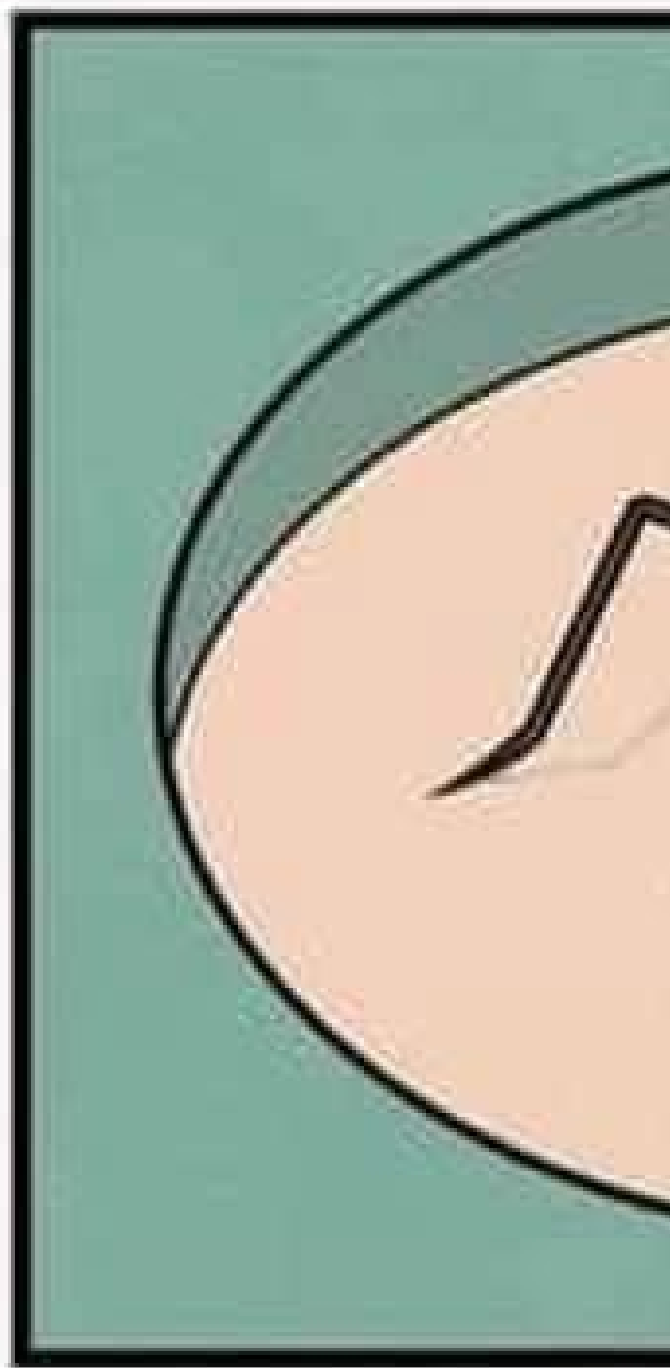
- These are often meant to be combined with a long sleeve shirt or jacket
- This provides a veil while allowing you to wear your own personal preference for an outer covering.
 - ☐ You can wear a heavy button up shirt, sweater or something else that would provide an equivalent coverage of a canvas jacket but be of your choosing

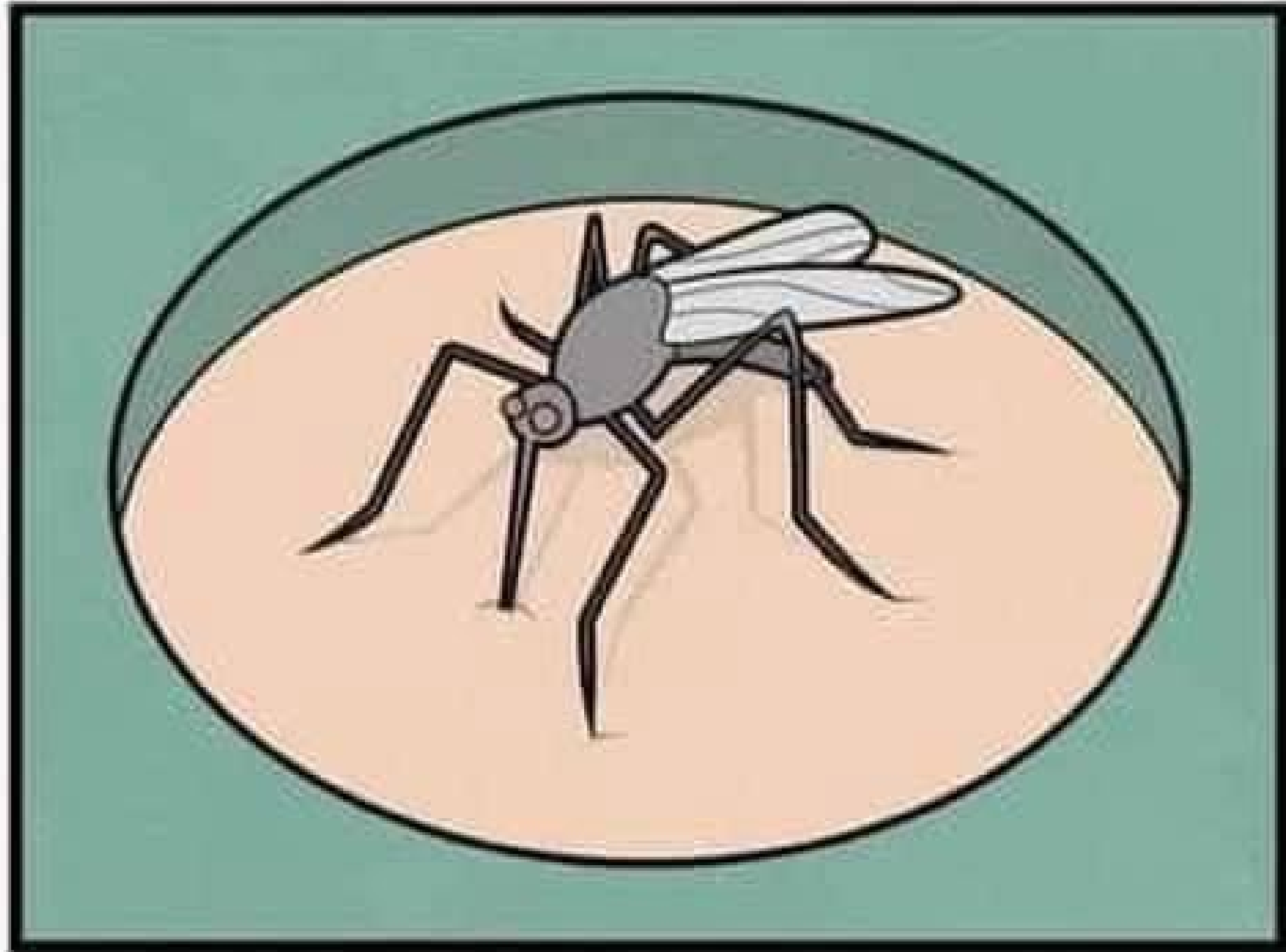
Always wear some sort of veil

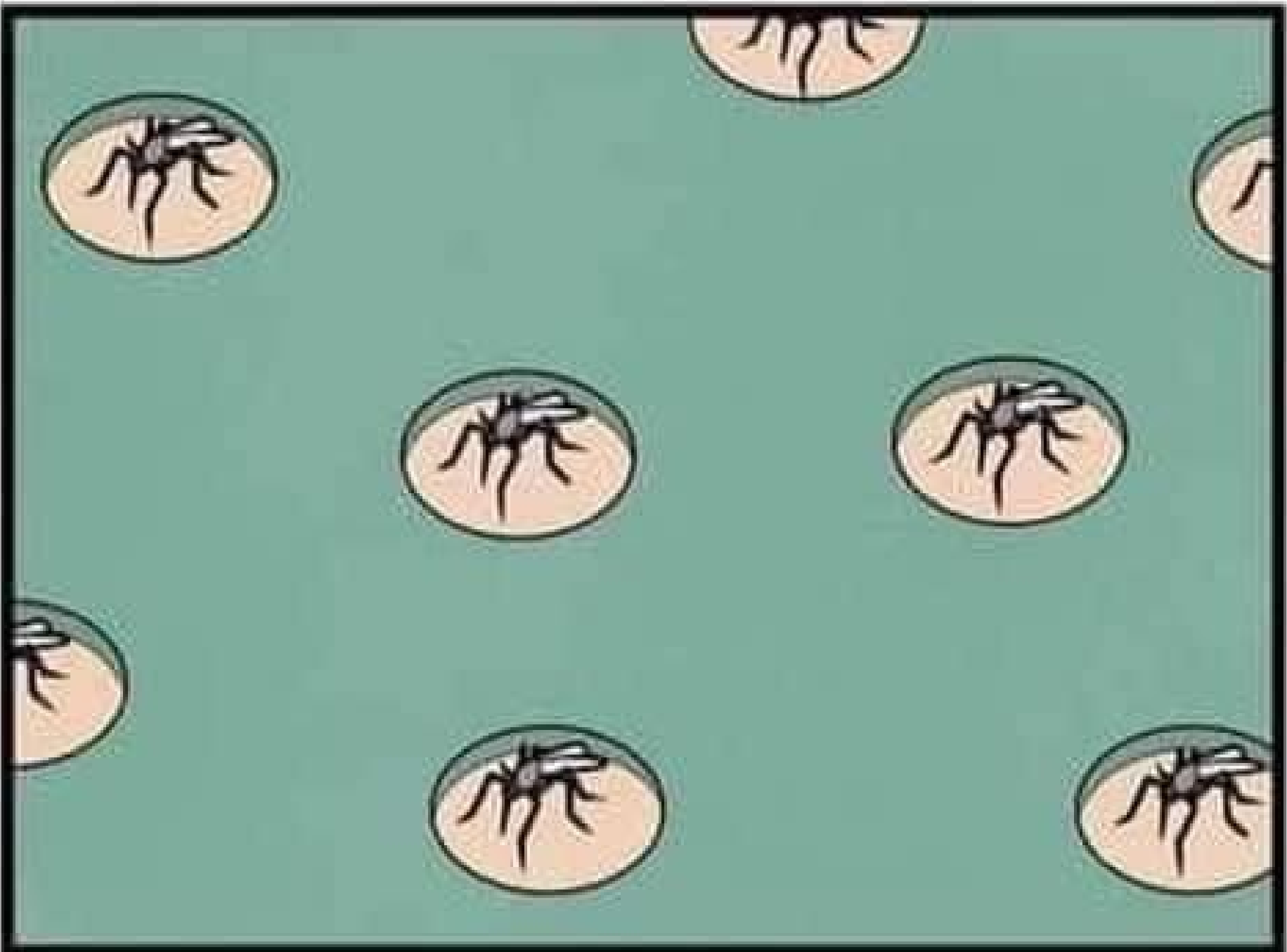
- ☒ This is an important principle

A cartoon illustration of a mosquito with a yellow thought bubble. The mosquito is grey with long, thin legs and a segmented body. It is standing on a light brown, sandy surface. A yellow thought bubble with a black outline is positioned to the left of the mosquito's head. Inside the bubble, the text "Have you seen this Meme?" is written in black. The background is a solid light brown color.

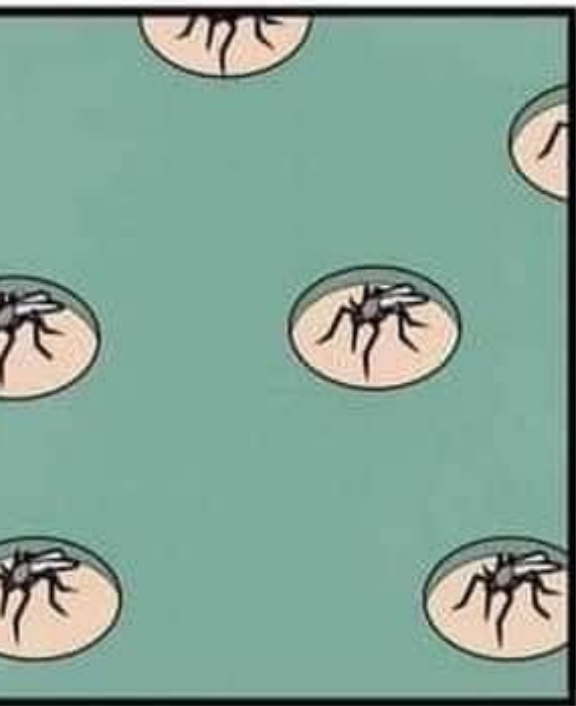
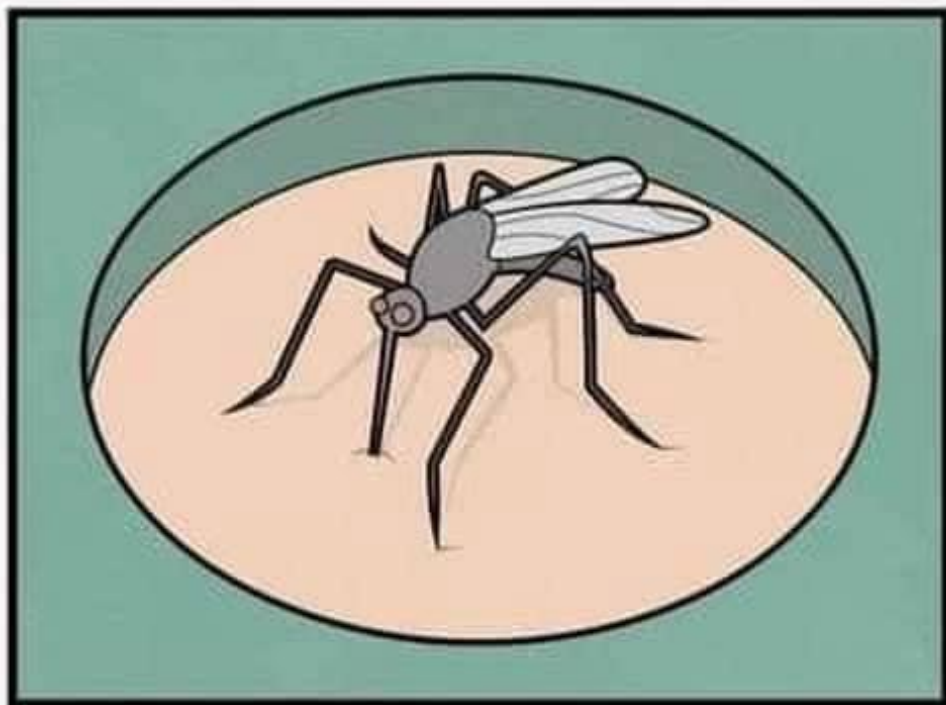
Have you
seen this
Meme?

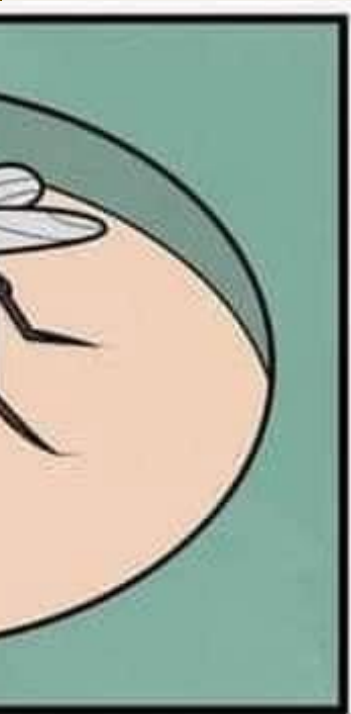












PROTECTIVE CLOTHING

STURDY FOOTWEAR

□ Footwear

- Footwear is an important consideration
 - Thick footwear that covers the ankles can protect you from stings
 - Stings on the foot and ankle are tender and painful – and also prone to swelling
 - Sturdy shoes also provide protection from turned ankles and give support during heavy lifting work
 - Sneakers or comfortable shoes are also quite common – just avoid open toe shoes and flip flops – this is no way to go





Everything else you might consider

EQUIPMENT CHOICES

BEEKEEPER KIT EQUIPMENT



EQUIPMENT CHOICES

BEEKEEPER ADDITIONAL EQUIPMENT



EQUIPMENT CHOICES

□ We are all in unique situations

- What one person needs varies
- Seek what works for you
- Connect and collaborate with others to find out what works for them
- Do your homework on pricier items while seeking out the things that in harmony with your operation
- Keep tabs with innovations in the marketplace
 - Periodically a new design emerges that changes the way you do things
- Enjoy the journey

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