

STAGE I - BEEKEEPING COURSE

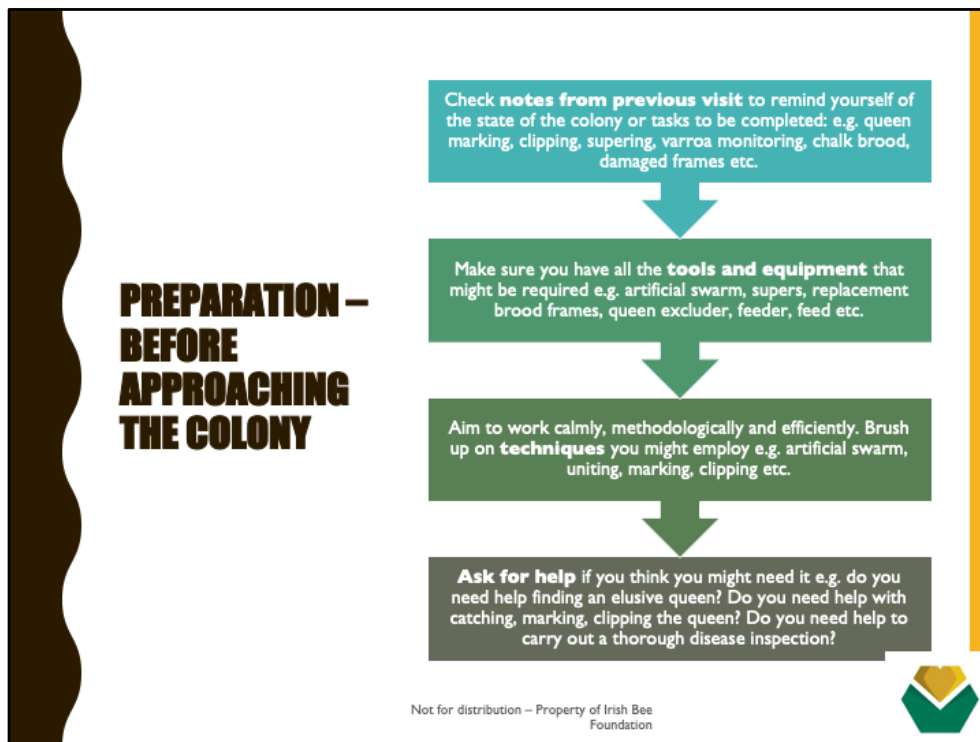


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Proper preparation is essential to a successful hive inspection. Before approaching:

- Plan Ahead: Know your inspection goals based on Hooper's Five Questions (checking for space, queen presence, disease, stores, and colony growth).
- Check Weather Conditions: Bees are calmer in warm, calm weather.
- Prepare Equipment: Ensure all tools are ready, including the smoker, hive tool, and protective gear.

Clear intentions and preparation minimize disruptions and keep bees calm during inspections.

PREPARATION – BEFORE APPROACHING THE COLONY

Consider the **weather**

Since last inspection

- Could bees be hungry?
- Could they need supers?
- Have they been cooped up?

During inspection

- Will the bees be out foraging?

Forecast

- If good, ensure early supering
- If bad, ensure adequate stores

If working alone, make sure you have a **phone** in case you need urgent assistance

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PREPARATION – BEFORE APPROACHING THE COLONY

If you have concerns about anything, **take photos** if possible

Remember you are responsible for the welfare of your bees. If you are not sure about what you are planning to do and why you are planning to do it, you are not ready to open your hive



PLANNING THE VISIT

❖ The answers to **Hooper's Five Questions** will give the beekeeper **all** the information needed to manage colonies:

1. Has the colony **sufficient room**?
2. **Is the queen present** and **laying** the expected quantity of eggs?
3. a. (early in season) Is the **colony building up** in size as fast as other colonies in the apiary?
or
b. (mid season) Are there any **queen cells** present in the colony?
4. Are there any signs of **disease** or abnormality?
5. Has the colony **sufficient stores** to last until the next inspection?





Protective gear keeps you safe and reduces hive disturbance:

- Bee Suit: Full suits are recommended, with elastic cuffs to prevent bee entry.
- Veil and Gloves: Protect face and hands; gloves should balance protection and dexterity.
- Boots: Choose footwear that covers ankles to prevent stings in exposed areas.

Proper gear keeps inspections safe and calm, even during extensive handling of frames.

DEALING WITH STINGS

- ❖ As soon as you have been stung by a bee, **remove the sting and the venomous sac**
- ❖ Do this by **scraping it out**, either with your fingernails, or something with a hard edge, such as a bank card
- ❖ Do not attempt to pinch the sting out with your fingers or a pair of tweezers, as you may spread the venom
- ❖ **Wash** the affected area with soap and water, put a cold flannel on the area, **raise** the part of the body that has been stung to prevent swelling
- ❖ If the sting is painful, place a bag of frozen peas on the swelling or some ice wrapped in a towel, and take painkillers, such as paracetamol or ibuprofen
- ❖ use a spray or cream containing local anaesthetic, antihistamine or mild hydrocortisone (1%) on the affected area to prevent itching and inflammation (swelling)

If you experience swelling or itching anywhere else on your body after being stung or, if you are wheezing or having difficulty swallowing, you will require emergency medical treatment. Call 999 immediately to request an ambulance.

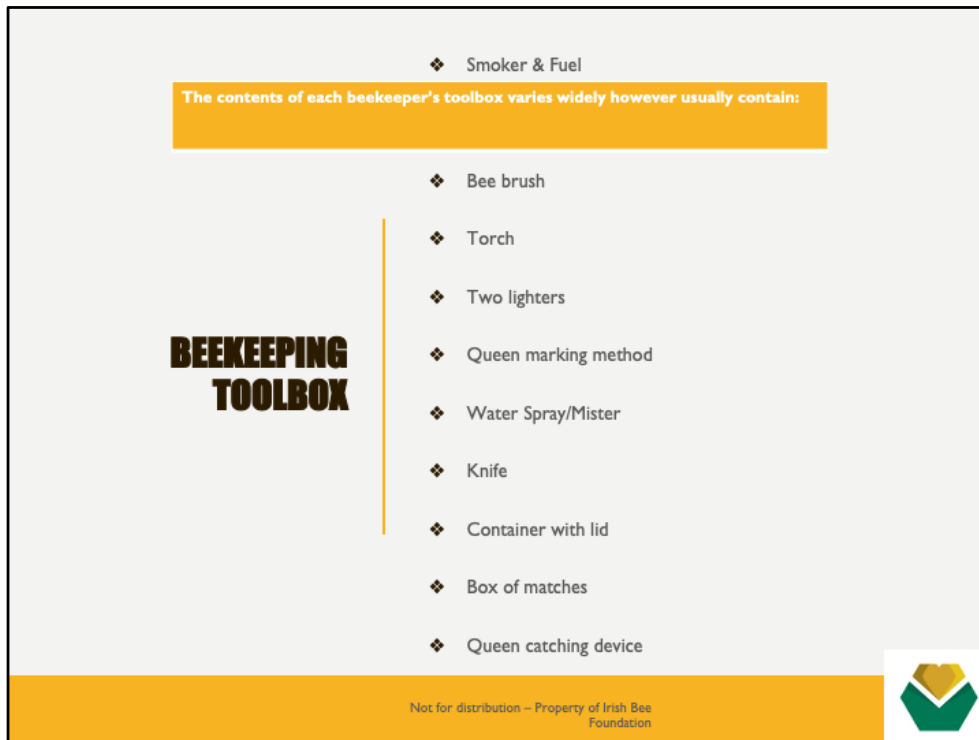
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Handling stings properly prevents pain and swelling:

- Remove the Sting Quickly: Scrape it out with a fingernail or card to avoid squeezing more venom into the skin.
- Wash and Cool: Clean the area, apply a cold compress, and elevate if possible.
- Pain Relief: Use painkillers or apply an antihistamine cream to reduce itching and swelling.

Preparedness helps minimize the impact of stings, which are common during hive inspections.



A well-equipped toolbox ensures smooth inspections:

- Essential Tools: Smoker, hive tool, bee brush, and queen marker.
- Extras: Lighters, water spray, queen-catching device, and containers for any removed material.

Having these on hand allows for efficient work and adaptability if unexpected issues arise during the inspection.



LIGHTING THE SMOKER

- ❖ Tear off about a quarter of a sheet of newspaper and crumple it loosely. Hold it over the top of the smoker and light the bottom. Insert it into the barrel while puffing the bellows gently
- ❖ Continue puffing gently and start sprinkling in the shavings. You need to see flames at this stage
- ❖ Add more shavings and keep puffing. The aim is to build a bed of red hot embers
- ❖ Fill the barrel to the top with shavings but don't press them down.
- ❖ Try leaving the smoker alone for 10 minutes. Puff it to see if it still produces smoke
- ❖ To extinguish a smoker after inspection, block the nozzle with either a solid bung or a twist of grass

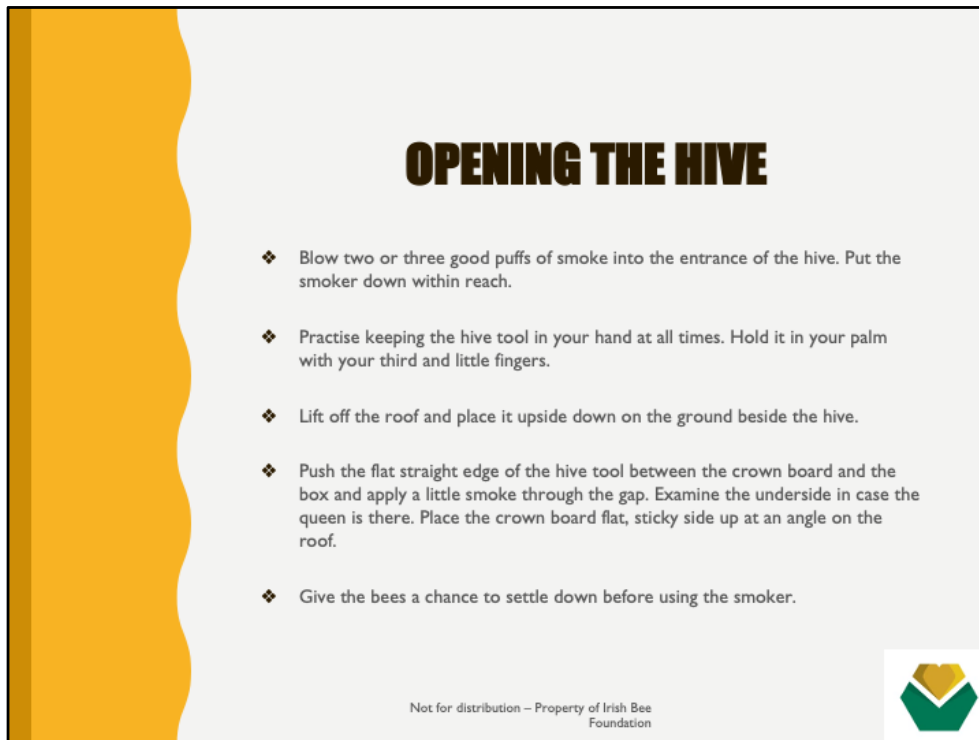
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The smoker is essential to calm bees:

- Start with Newspaper: Light crumpled paper and place it in the smoker.
- Add Fuel Gradually: Use shavings or other safe materials, creating a steady bed of embers.
- Check for Steady Smoke: Ensure the smoker will stay lit, with light puffs releasing cool smoke.

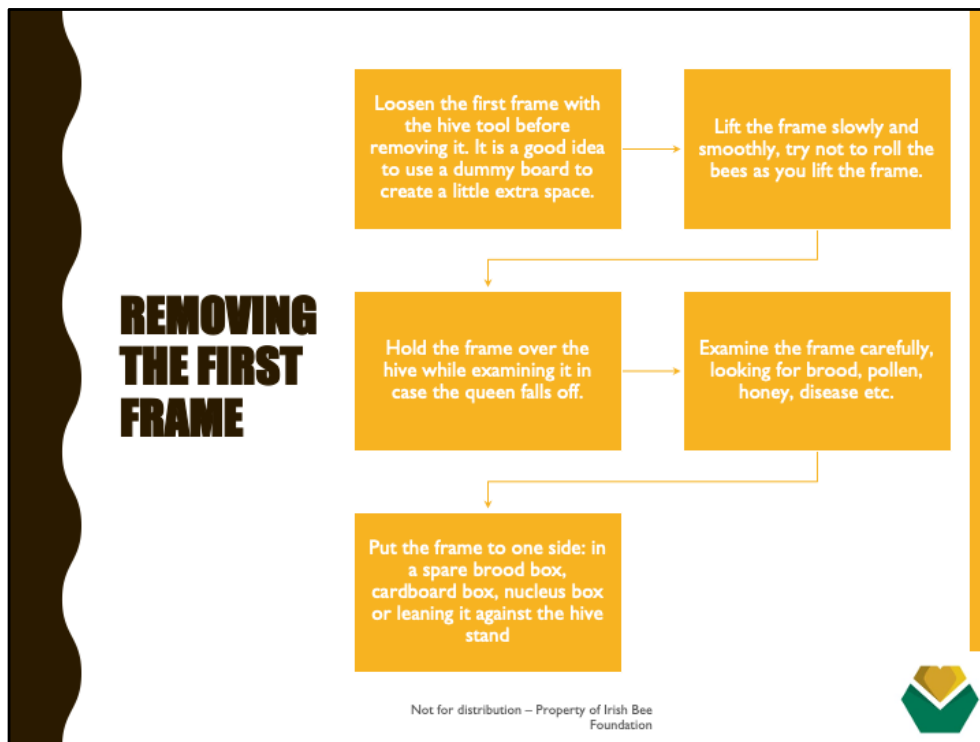
Effective smoker use reduces bee agitation and makes inspection easier.



Open the hive carefully to avoid disturbing the bees:

- First Smoke: Puff smoke at the entrance, then wait briefly.
- Remove the Roof and Crown Board: Place the roof upside down nearby, inspect for the queen, and apply smoke gently.
- Tool Handling: Keep the hive tool in hand, ready for use to pry open boxes without disturbing the hive.

Careful handling sets a calm tone for the inspection and minimizes stress on the bees.



The first frame is the trickiest to remove, as it has the least space:

- Create Space: Gently move neighboring frames to create a gap.
- Handling: Lift carefully by the lugs, keeping the frame vertical to avoid spilling bees or nectar.
- Inspect: Look for brood, eggs, and other signs of hive health.

Removing the first frame smoothly eases the entire inspection process.

HANDLING THE FRAMES

- ❖ Hold the frame by the lugs
- ❖ Drop one hand down and raise the other so that the top bar is vertical
- ❖ Rotate the frame through 180° in the vertical plane so that the other face of the comb is towards you
- ❖ Raise the hand you dropped and drop the hand you raised. You'll now be looking at the other side but with the top bar at the bottom
- ❖ Turn it back the same way when it's ready to be replaced in the hive



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Proper handling prevents damage to comb and bees:

- Rotation: Lift by the lugs, drop one hand, rotate 180°, then lift the opposite hand to view both sides.
- Gentle Movements: Avoid shaking or jerking frames to keep bees calm.
- Observe Carefully: Look for signs of brood health, honey stores, and queen presence.

This careful handling is key to a thorough inspection and keeps bees from becoming defensive.

CREATING SPACE

- ❖ As you take out each frame in succession, it is replaced on the side of the gap nearest to you and moved firmly back towards you
- ❖ Retain the gap next to the frame you plan to remove next
- ❖ Frames must be kept in the same order
- ❖ You may need to apply a little smoke to move the bees from the lugs of the next frame
- ❖ If you can't see the comb, you need to remove the bees: hold the frame by the lugs down in the gap and give it a sharp shake. This will dislodge most of the bees into the hive

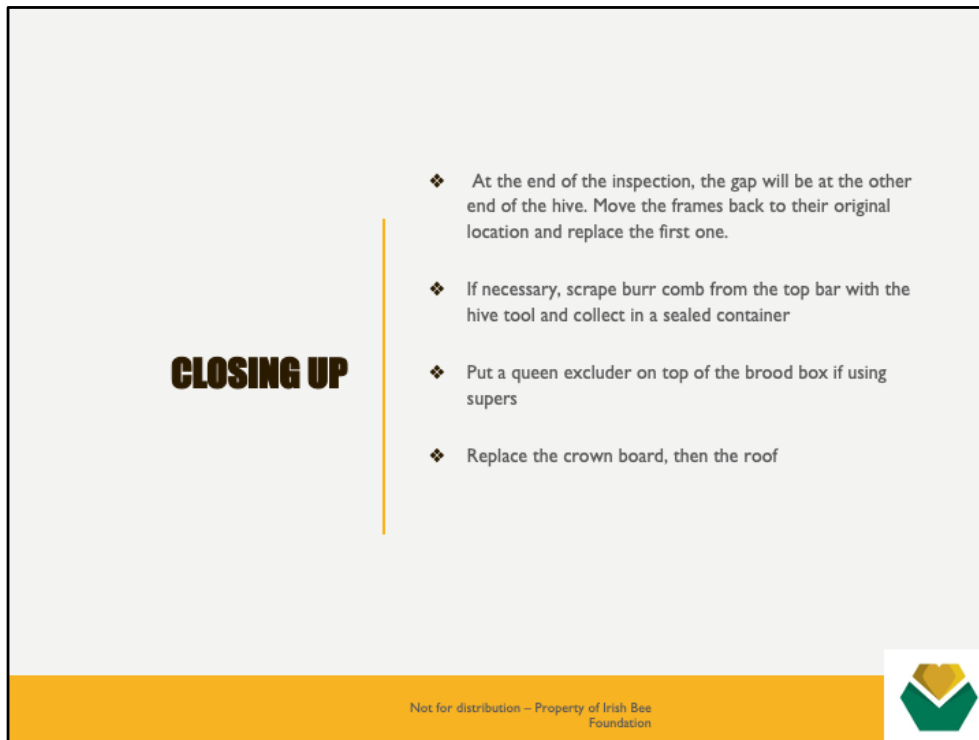
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Maintaining space while inspecting frames keeps bees calm:

- Frame Order: Keep frames in the same order to preserve the colony structure.
- Removing Bees: If bees obstruct the view, a quick shake can dislodge them into the hive.
- Using Smoke: Small puffs on the frame lugs help clear bees without excessive disturbance.

Maintaining organization within the hive keeps bees oriented and allows for easier reassembly.



Properly closing the hive prevents future problems:

- Return Frames to Position: Place frames back in their original order, removing any burr comb with the hive tool.
 - Reassemble Hive Components: Place the queen excluder (if using) and replace the crown board and roof.
 - Check for Gaps: Ensure all parts fit snugly to prevent drafts or pests.
- A secure hive reduces stress on bees and keeps the colony environment stable.

IMPORTANCE OF RECORDS

- ❖ Recording the observed state of the colony after each inspection is a critical habit that allows the beekeeper to track the development of the colony over time.
- ❖ “Keep accurate records” is probably the most important piece of advice the beginner needs to take on board
- ❖ For small scale beekeepers these records will often take the form of a journal or diary with no real structure involved but are very valuable nonetheless.
- ❖ As the number of hives increases a tabular method becomes more practical as these require minimum writing.
- ❖ By law an “Animal Remedies Record” of all animal remedies purchased and administered must be kept by the owner or person in charge of a food producing animal.

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Keeping detailed records is essential for tracking colony health and progress:

- Record Key Observations: Include queen activity, brood health, stores, and any signs of disease.
- Format: Small-scale beekeepers may use a journal, while large-scale operations benefit from structured sheets.
- Animal Remedies Record: Keep a log of all medications, as required by law for food-producing animals.

Records enable informed decision-making and provide valuable insights over time.

EXAMPLE RECORD SHEET (1)

Tribes Beekeepers - Hive Inspection

Apiary Location Hive ID

Date and Time of Inspection Inspection Details

Pollen Gathering? ☐ Nectar Flow? ☐ Weather

Purpose for Inspection

Development Times for Honey Bees

Development (days)	Queen	Worker	Drones
Egg hatches after	3	3	3
Cells Capped after	8	8	10
Adults emerge after	16	21	24

Hive Details Queen Seen ☐ Mashed ☐ Eggs ☐ Queen Excluder fitted ☐

Queen Cell ☐ Removed Queen Cells ☐ # Queen Cells Remaining

Queen Cell Charged ☐ Spotty Drums Brood? ☐ # Frames with Brood

Queen Cell Egg ☐ Worker Brood in All Stages? ☐ # Frames of Honey/Nectar

Queen Cell Capped ☐ Compact Brood Pattern? ☐ # Frames of Pollen

Frames of Foundation # Frames Open Comb

Frames bees occupy in brood chamber # Supers in place # Supers added

Health

Signs of Disease? ☐ Good Temper ☐

Small Hive Beetle Damage? ☐

Nosema Shedding ☐

Signs of Varroa Mite Infestation ☐

Feeding and/or Medication

Actions Taken and Notes

Equipment needed for next visit

Colony Condition Weak ☐ Marginal ☐ Strong ☐

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Inspected by:



EXAMPLE RECORD SHEET (2)

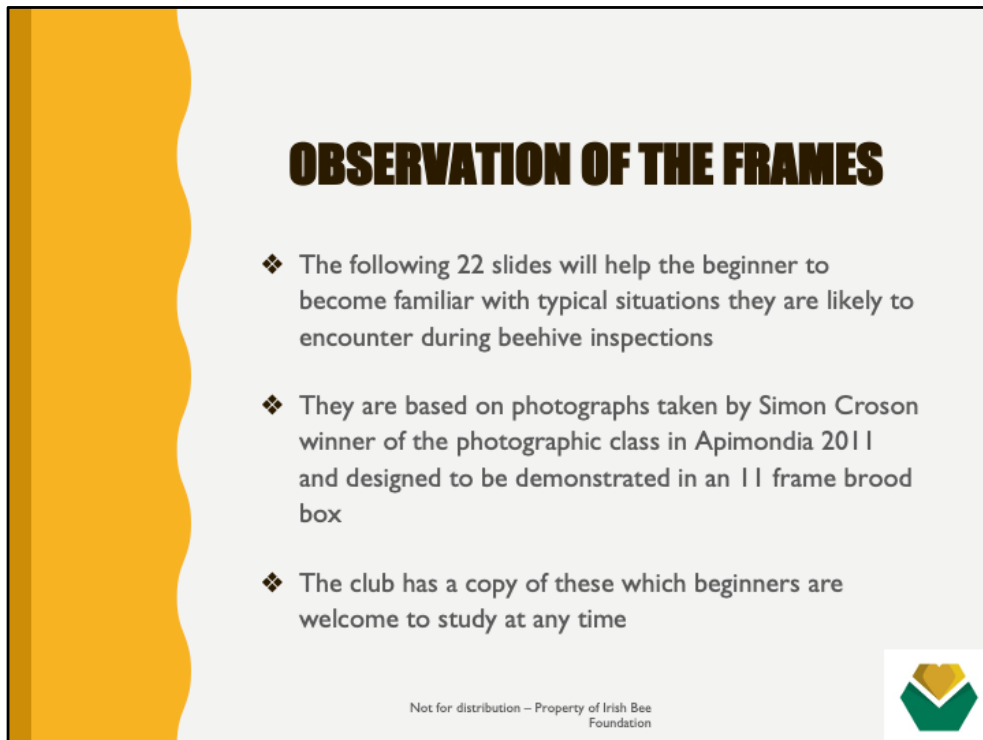
Hive Number:		Location:	
0 = Unsatisfactory, 1 = Satisfactory, 2 = Good, 3 = Very Good, 4 = Excellent, 5 = Outstanding			
Queen Origin:			

[illegible]

Culling Criteria : <3 average in A or <2.5 average in C or <12.5 in total

Breeding Criteria : >3 average in A and >3 average in C and total rating of 17 or more

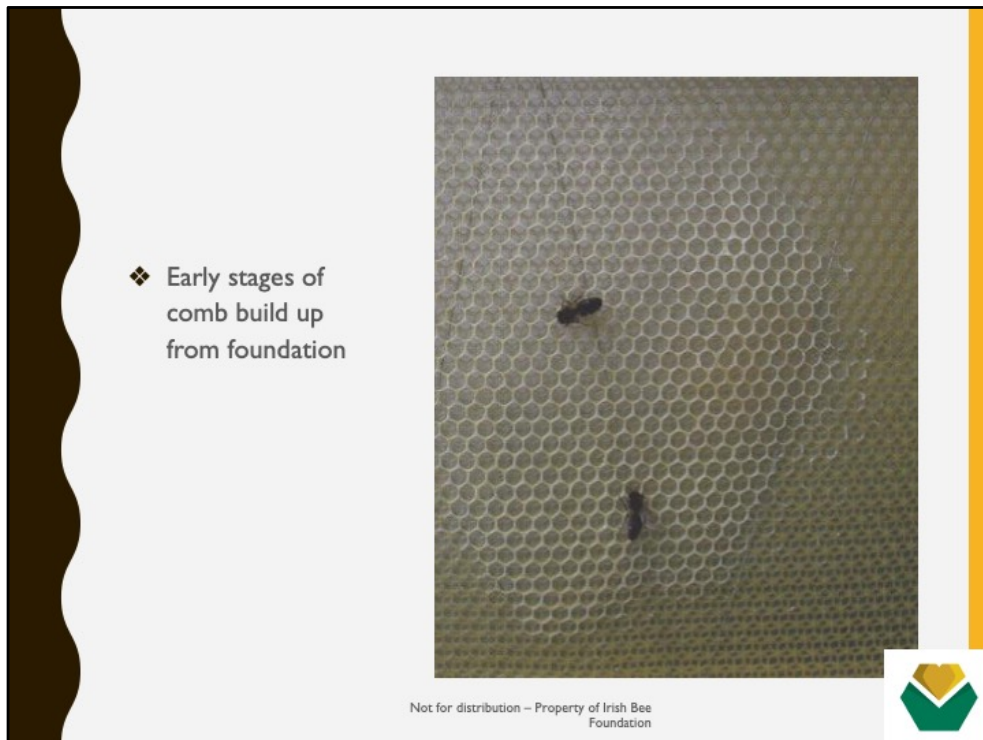




Observing frame contents helps identify colony health and any concerns:

- Healthy Patterns: Look for a balanced mix of honey, pollen, and brood, and note the distribution.
- Queen Cells: Single cells may indicate supersedure, while multiple cells suggest swarming behavior.
- Pest Signs: Look for any signs of wax moths, varroa, or chalkbrood.

Detailed observation helps prevent issues like disease and swarming, allowing proactive hive management.



These slides demonstrate different colony conditions you may encounter:

- Comb Build-Up: Early signs of colony expansion.
 - Brood and Honey Distribution: Note honey stores at the top, with pollen and brood below.
 - Play Cups and Queen Cells: Indicates preparation for swarming or queen replacement.
 - Pest Indicators: Wax moth traces or varroa treatments (e.g., chemical strips).
- Learning to recognize these conditions supports effective colony management.

- ❖ Comparison between stored honey (top) and sealed brood (mid centre)



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- ❖ Increased stored honey and a single 'play cup'



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- ❖ Typical brood frame with lots of stored honey, arch of varied pollen and good sized area of sealed brood



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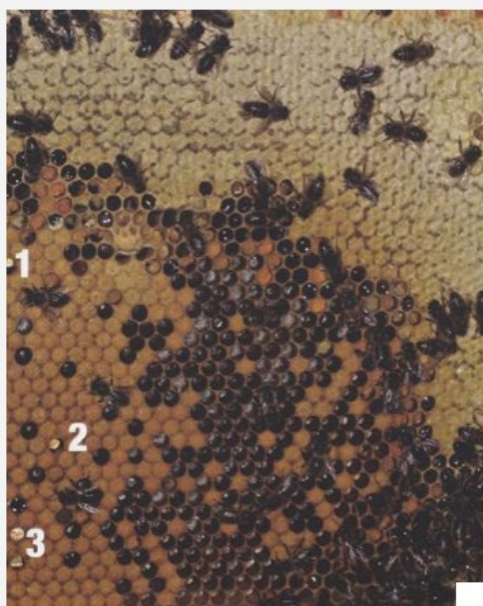
- ❖ Large area of very young brood, a mix of eggs and young brood – sure sign that the queen is active



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- ❖ Equal area of mature and sealed brood. White cells at 1, 2 and 3 are cells infected with chalk brood



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- ❖ Frame of mature and sealed brood. Mature pearly white grubs, soon to be sealed can be clearly seen, indicating the healthy state of the colony



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- ❖ A chemical impregnated strip, which can be used as a varroa treatment



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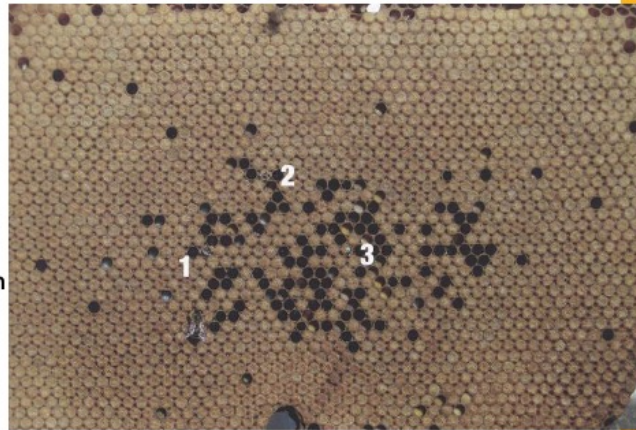
- ❖ Heavily congested frame of bees which need to be shaken or brushed off to allow an inspection to take place



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- ❖ A frame almost free of bees allowing an uncluttered view of the comb. Emerging workers can be seen at 1, 2 and 3



❖ Good quality
brood pattern



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- ❖ Good quality brood pattern with a 'play cup'



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- ❖ Frame of honey with a single queen cell; being a single queen cell indicates a possible supersedure queen cell



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- ❖ Multiple queen cells are normally an indication of a colony's inclination to swarm. In this case, the cells are in the frame centre and may be the result of a tendency to supersede.

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- ❖ Strong frame of mixed brood from a very healthy colony; note the arc of varied pollen below the sealed honey. Pollen comes in a variety of colours from white to black.

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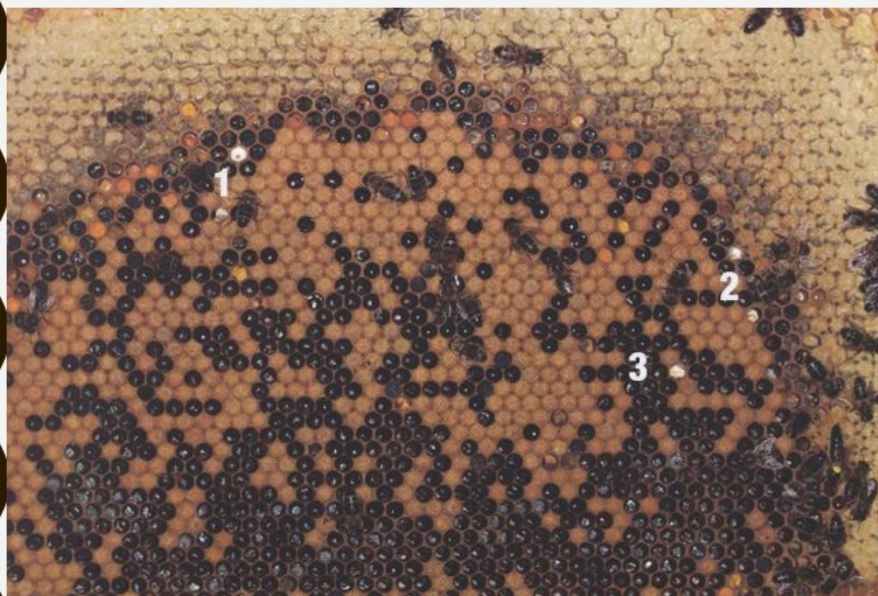


- ❖ Difficulty of spotting the queen amongst so many bees



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- ❖ Frame relatively free of bees and a yellow marked queen (bottom right). Note chalk brood visible as white cells at 1, 2 and 3



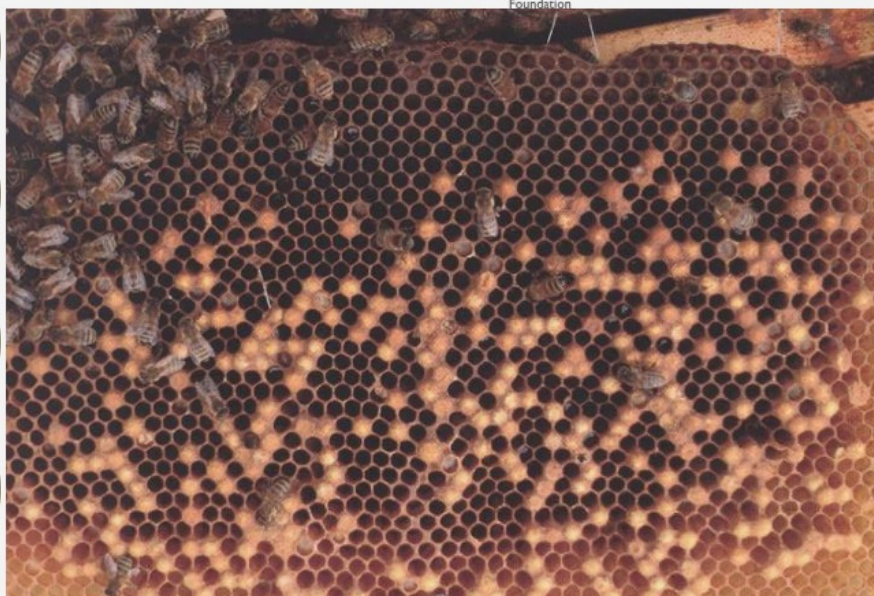
- ❖ Healthy frame abundant with bees and various colours of pollen at 1



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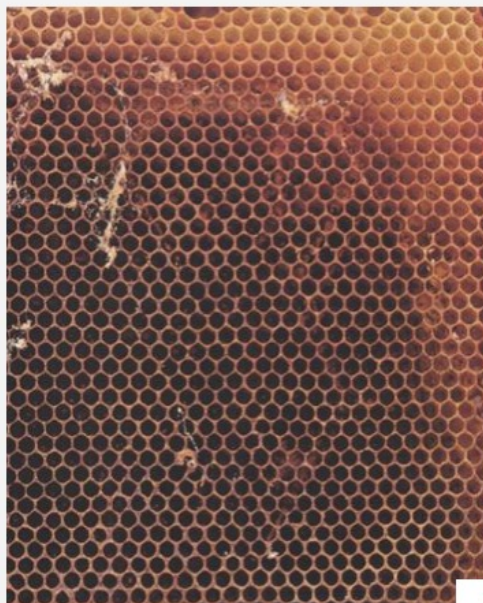
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- ❖ Sporadic drone brood indicating the probability of a drone laying queen or a laying worker



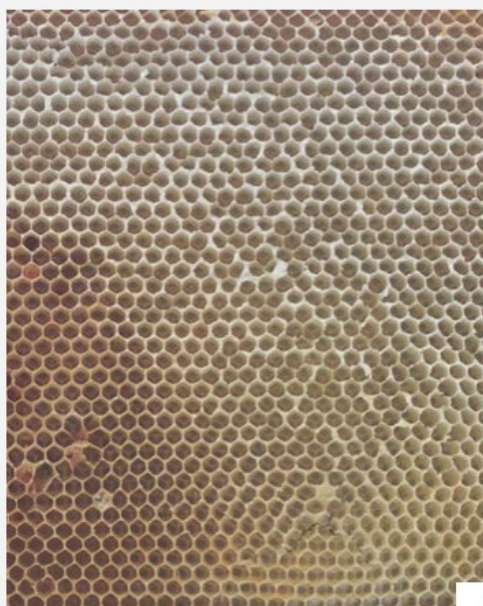
- ❖ Tell tale silk traces of wax moth



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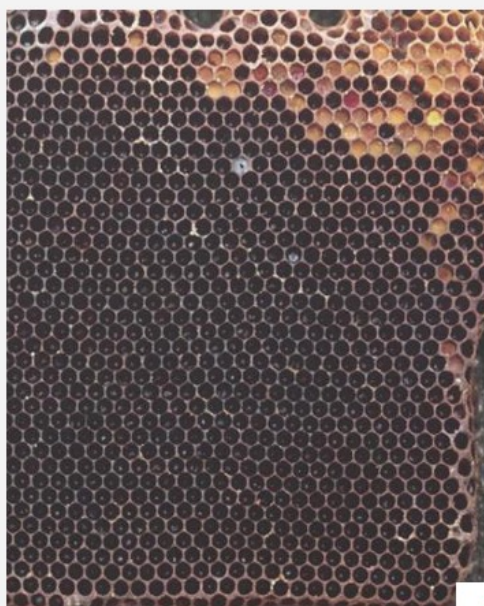
- ❖ Empty brood frame of relatively new wax



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- ❖ Frame of old brood wax which requires renewing



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GO RAIBH MAITH AGAIBH

THANK YOU ALL

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