NPOP-Chapter.3
3.3. ORGANIC BEE KEEPING/APICULTURE

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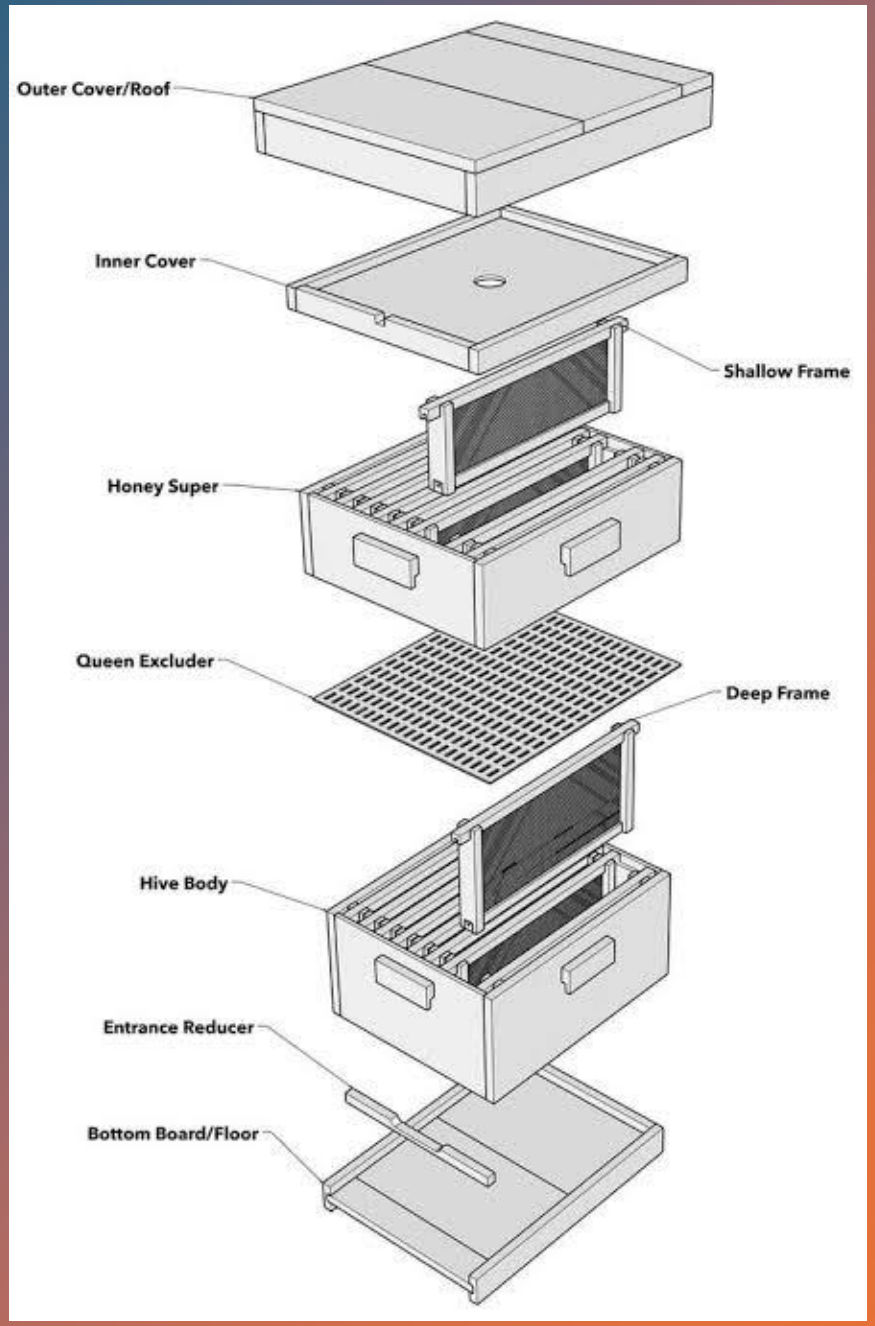
3.3.1 Choice of Breed/Strains

- For the choice of bees for rearing, preference shall be given to indigenous species of bee, such as
- Apis cerena indica,
- Apis mellifera,
- Apis lorae,
- Apis dorsata,
- Mellipona spp. &
- Trigona spp.-Dammar (Indian stingless honeybees) and their local ecosystem.



3.3.1.1 Sources/Origin

- Encourage planned bee nursery establishment.
- Use natural materials for hives to prevent contamination.
- Source new foundation beeswax from organic production.
- Use only natural products (propolis, wax, plant oils) in hives.
- Do not certify or allow sale/transfer of colonies with notifiable diseases*
- NOTE:

*As per Annex 3-(10) Notifiable diseases:

- . American Foul Brood (AFB)
  - European Foul Brood (EFB)
  - Acarine Disease
  - Nosema Disease

3.3.2. Conversion Period

- i. The conversion period shall not apply when bees are grown in wild and in natural conditions.
- ii. Twelve months conversion period shall apply to those bee colonies/ apiaries which are reared.
- iii. During conversion the bee colonies shall be placed in isolation and the foundation comb shall be made from organic wax.

3.3.3 Hiving the Honeybees

I. Wall hives should accommodate movable standard frames.

II. Foundation comb must be made from organic wax.

III. Beehives should primarily use natural, non-toxic materials.

IV. Avoid persistent materials in hives that could contaminate honey or the environment via dead bees.

V. Place apiaries within a 3 km radius of organic farms (except during non-flowering or dormant periods).

VI. Only natural products (propolis, wax, plant oils) are allowed in hives; chemical repellents are prohibited during honey extraction.

3.3.4 Apiary Management

I. An apiary is a location where one or more managed honeybee colonies are assembled.

II. Apiary sites should be near clean water and bee flora, protected from various environmental hazards and nuisances, and located at least 5m away from public paths or highways.

III. Wild honey collection areas should be organic or wild and varied to support bee nutrition and health.

IV. The number of colonies in an apiary should be limited to the forage capacity of the area to prevent overstocking.

V. All brood or full-depth frames shall be wired to withstand breakage of combs during inspection, migration and extraction, etc.

3.3.5 Feed

I. During local dearth periods with insufficient natural stores, provide organic sugar and/or pollen supplements to maintain colony strength, but only after the last harvest and before foraging is available again.

II. At the end of the season, hives must have enough honey and pollen reserves for winter survival; feeding is an exception for temporary shortages due to weather.

III. Feeding colonies is only allowed when their survival is threatened by climate, between the last harvest and 15 days before the next nectar flow, using only organic feed (honey, sugar syrup, or sugar).

3.3.6 Health care

I. **Veterinary medicines are prohibited in beekeeping.**

II. **Only products listed in Annex -3(11)* are allowed for pest and disease control and hive disinfection.**

III. **Products in Annex -3(11)* are permitted to protect frames, hives, and combs from pests.**

IV. **Physical treatments like steam or direct flame are allowed for apiary disinfection.**

V. **Destroying male brood is permitted only if the colony is infested by Varroa destructor.**

VI. **Sick or infested colonies must be treated immediately and can be moved to isolation apiaries if needed.**

**(Annex -3(11) has been attached in the next slide for quick reference)*

Annex- 3(11)

Approved Products in Beekeeping for Disinfestations/Cleaning/ Disease-Pest Control

I. Caustic soda
II. Lactic acid, Oxalic acid, Acetic acid
III. Formic acid
IV. Sulphur
V. Ethericoils
VI. *Bacillus thuringiensis*
VII. Menthol
VIII. Thymol
IX. Eucalyptol
X. Camphor
XI. Azadirachtin
XII. Gelatine
XIII. Hydrolysed Proteins
XIV. Lecithin
XV. Plant Oils
XVI. Pyrethrins
XVII. Quassia
XVIII. Rotenone extracted from *Derris* spp., *Lonchocarpus* spp .and
XIX. *Terphrosia* spp.
XX. Micro-organisms
XXI. Diammonium phosphate in traps
XXII. Pheromones *(intraps & dispensers)*
XXIII. Soft Soap
XXIV. Lime Sulphur
XXV. Paraffin Oils
XXVI. Mineral Oils
XXVII. Quartz sand
XXVIII. Sulphur
XXIX. Potassium bi-carbon

3.3.7 Breeding and Management

- i. Clipping of wings of queen bees is prohibited.

- ii. For apiary renovation, up to 20% of queen bees and swarms can be replaced annually with non-organic ones, provided they are placed in hives with organically sourced combs or foundations.

3.3.8. Periodic Cleaning.

Beehives shall be cleaned periodically.
Inspect colonies monthly (or twice) with minimal disturbance.
Collect and incinerate debris from the bottom board.
Pool and melt wax combs for wax recovery; melt old combs for renewal.
Periodic cleaning can be skipped for overwintered, packed colonies during that period.

3.3.9 Record keeping

- Records shall be maintained for each of the colonies during periodic inspections. If in case of suspicion of incidence of any disease immediate remedial measures shall be taken.

3.3.10. Transport/ Migration

I. **If forage scarcity lasts 6-8 weeks, relocate colonies to nearby organic sources (farms/forests) or other organic areas with different flowering.**

II. **Before migrating, inspect colonies for queen and food levels, and correct any deficiencies.**

III. **Pack colonies securely: fix hive components, prevent shaking, ensure ventilation and space, provide transit food/water if necessary, and prevent bee escapes.**

IV. **Migrate preferably at night or in cool weather, loading frames parallel to truck movement and perpendicular to train movement. Plan transport to avoid delays.**

V. **Prepare the new apiary site before arrival: clean, arrange stands, and provide water.**

3.3.10. Transport/ Migration

- **Upon arrival, promptly place colonies on stands and open entrances.**
- **Inspect colonies within 7 days for damage (combs, queens, dead bees). Replace old combs: move aside, remove later, recover wax, sterilize frames, and add foundation.**
- **Use migration for increasing colony numbers through division or queen rearing and replace old queens.**
- **Do not migrate colonies from officially declared epidemic regions.**
- **Moving organic hives to non-organic areas is only permitted during disasters threatening colony survival.**

3.3.11. Product Extraction

I. Strengthen colonies by uniting weak ones before the flow.

II. Boost medium colonies with sealed brood and/or honeybees.

III. Provide simulative organic feeding.

IV. Add comb foundation strips for comb building and brood nest expansion.

V. For colonies slightly below full strength (lacking a couple of combs), use dummy or division boards to reduce empty space in the brood box, encouraging bees to move up into the honey **supers*** to store honey. Very weak colonies should be moved to nuclei to focus on building strength for potential later honey production.

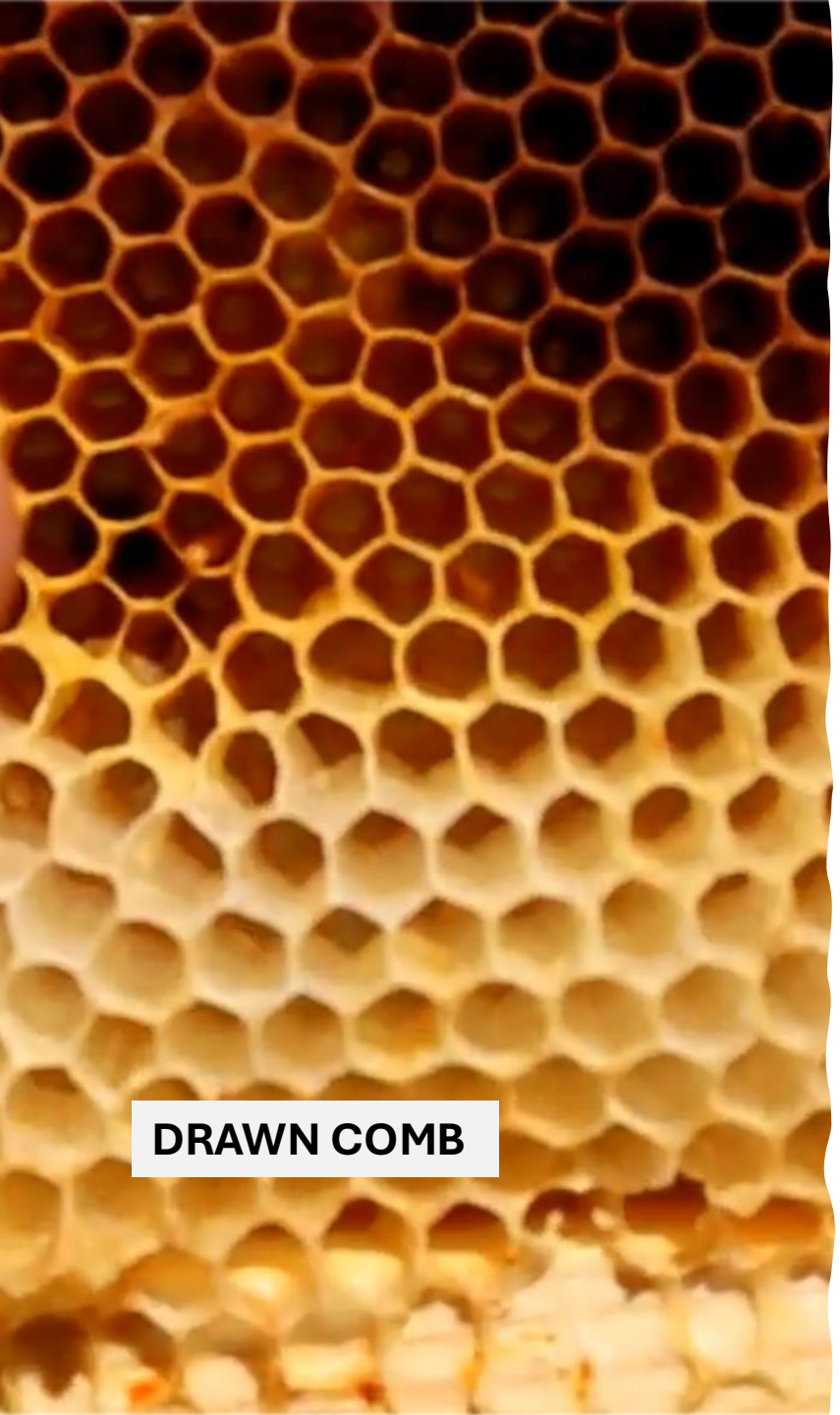
(**SUPER means honey storage chamber on top of the hive. Refer picture in slide No. 3)*

3.3.11. Product Extraction……2

vi. Add supers as soon as nectar flow begins. When the first super is mostly full but unsealed, add another. Aim for three supers per colony. vii. Extract honey only from fully sealed combs to avoid fermentation.

viii. Never extract honey from brood combs, as bees need it for the dearth period.

ix. After extraction, remove bees from empty combs and store them carefully in cool, dry, pest-proof conditions with preservatives. Reuse these combs in the next honey flow; aim for at least two extra supers of drawn combs per colony. (*See My Notes in the next slide*)



My Notes. (Not in NPOP)

- ***Why aim for at least two extra supers with drawn combs for each colony?***
- ***The main reason is to maximize your honey harvest during a good nectar flow.***

- ***More detailed explanation:***

- ***<u>Ready-Made Storage</u>: When a strong nectar flow is happening, bees can collect a lot of nectar very quickly. If you have empty supers with already built (drawn) combs ready, the bees can immediately start filling them with nectar. They don't have to spend time and energy building new wax combs first. Building comb requires a lot of energy and honey consumption.***
- ***<u>Increased Honey Production</u>: Because the bees start storing honey right away, you'll likely get a larger honey yield compared to if they had to build new comb in every new super you add. More drawn comb means more space readily available for honey storage.***

3.3.12 Extraction of honey

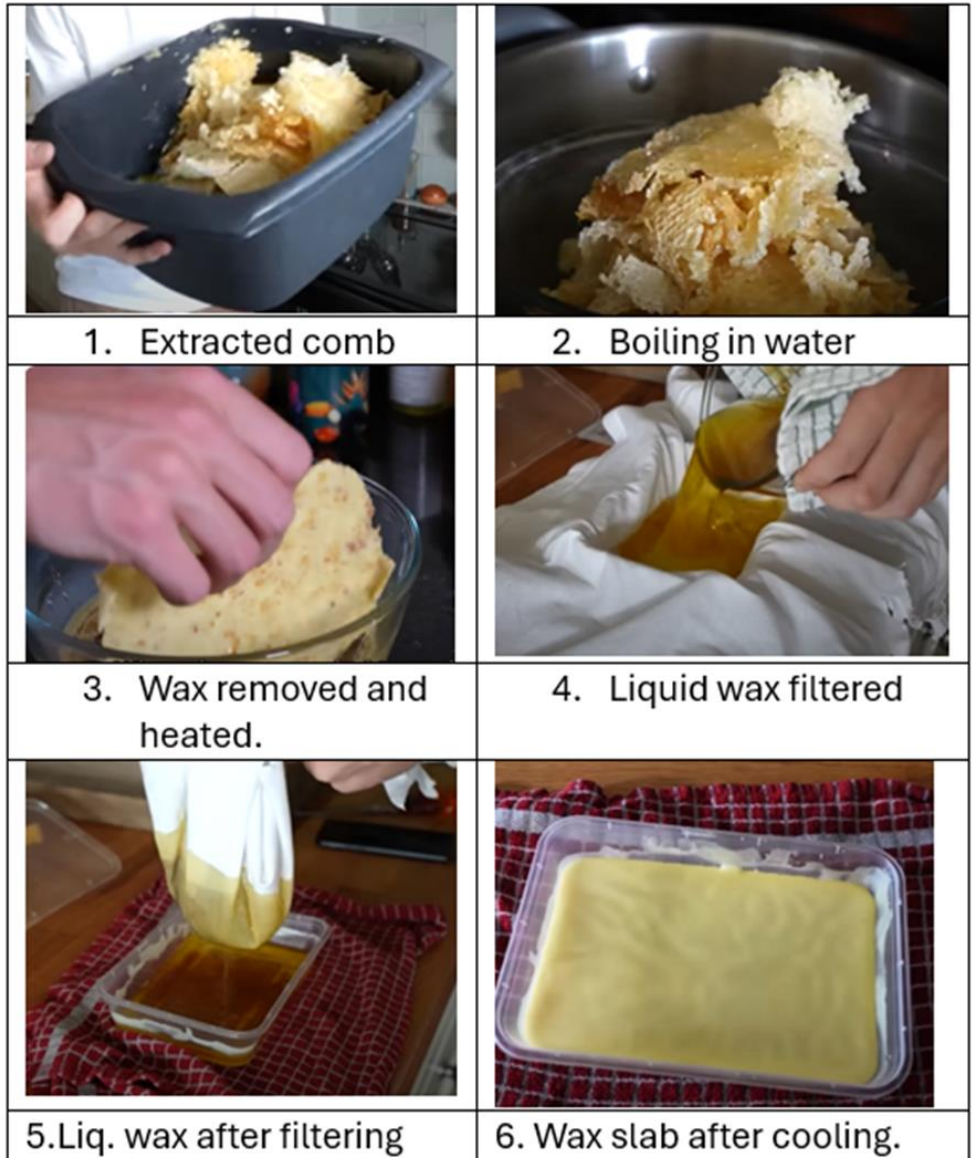
- Extract honey only from sealed combs.
- Never extract honey from brood combs.
- Use only smoke (sparingly) as a repellent during harvest; avoid chemical synthetic repellents.
- Extract honey in a clean, fly-proof space.
- Clean all extraction equipment thoroughly with boiling water before use.
- Strain extracted honey through a 1.40 mm strainer.
- Collect extracted honey in containers made of stainless steel, aluminum, or thickly tinned or galvanized.

3.3.12 Extraction of honey

- Honey containers must be covered and labeled with the producer's name, extraction date, and location.
- Honey extractors must be healthy, wear clean clothes, and use disinfectant soap to wash hands.
- Honey from diseased colonies must be kept separate, **pasteurized** before sale, and never fed to bees.
- Store extracted honey in airtight containers in a cool, dry, hygienic place, away from smoke, heat, and insects, and transport it to processing centers promptly.

3.3.13. Extraction of Beeswax

- Collect all beeswax, including from old combs and burr/brace cells, keeping wax from different bee species separate.
- Store wax from honey capping separately as it's the purest form.
- Store old combs in sealed containers and melt them promptly to avoid deterioration and wax moth. Cast the melted wax into desired shapes and sizes.



3.3.14 Crop pollination

- Beekeepers should know that besides getting honey and wax, their bees can also help pollinate farm crops and fruit trees, which makes the farms produce more.

3.3.15 Conservation of bee flora

- Viability of the beekeeping industry depends on the density and composition of local flora.
- Forest vegetation shall not, therefore, be destroyed.
- Trees, shrubs and herbs providing bee forage shall be particularly conserved


Thank
you