

Site Requirements for Apiary:

- Located near nectar and pollen plants, with flat terrain and good drainage.
- Must be sheltered from strong winds, with access to fresh water.

Essential Beekeeping Equipment:

Bee Hive: Movable wooden hives with frames for comb building.

Hive Stand: Keeps hives off the ground to protect from pests.

Brood Chamber: Where bees rear young, with frames for comb building.

Super Chamber: For storing surplus honey.

Hive Frames: Hold the combs inside the hive.

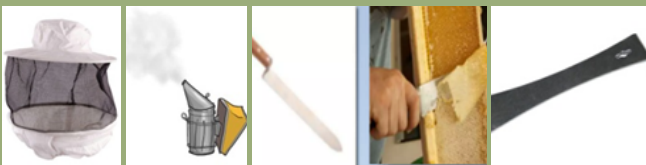
Queen Excluder: Keeps the queen confined to the brood chamber.

Bee Feeder: Provides sugar syrup to bees during dearth periods.

Honey Extractor: Centrifugal device for extracting honey from combs without damaging them.

Other tools include smokers to calm bees, decapping knives, and pollen traps. Each piece of equipment serves to improve efficiency and colony health in commercial beekeeping operations.

Bee equipments:



Bee veil

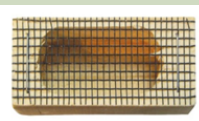
Smoker

Uncapping knife

Hive tool



Queen cell protector



Queen cage



Bee suit



Bee feeder



Bee brush



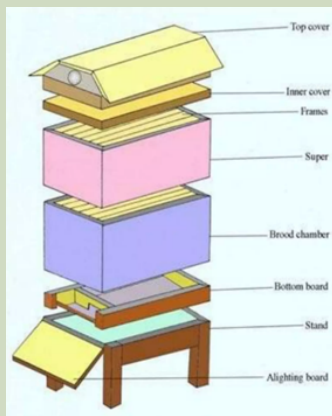
Hive frame



Swarm basket



Queen excluder



Modern bee hive



Synthetic



Honey extractor

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Scientific Method of Beekeeping

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Introduction:

Beekeeping, or apiculture, is a fascinating hobby and a valuable agro-based sideline that can offer additional, and sometimes even primary, income for rural communities. Honey, often regarded as nature's miraculous food, has a nutritional profile that is more similar to fruit than to table sugar or other sweeteners. Beyond producing honey and other products, honey bees play a crucial role as pollinators for agricultural and horticultural crops.

Apiculture/Beekeeping:

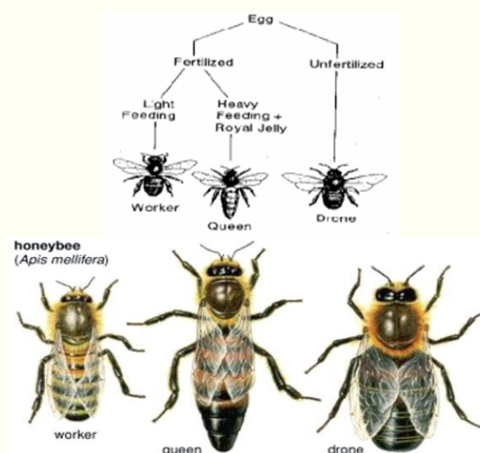
Beekeeping is an art and skill in maintaining the bees in modern movable frame hives for hobby or fascination, production of hive products (honey, bee wax etc.) and for pollination services or the practice of rearing and maintenance of bees for the benefit of human beings is called beekeeping or apiculture.

Apis means 'bee' and **cultura** means 'cultivation through education'. The place where the hives are maintained is called an **Apiary**.



Honey Bee Castes

The honeybee is a social insect and lives in colonies with a highly organized system of division of labour. Many combs are found in a colony in which the members of the same family used to live. Each family consists of three castes: queen (fertile female), drones (fertile males) and workers (sterile females). Each caste has its special function in the colony. The workers are undeveloped females, the drones are known as males and the queen is the fully developed female. Every honey bee colony comprises of 35,000 to 70,000 members includes a single queen, 200-300 drones and several thousand workers.



Different Species of Bees:

The honey bees belong to superfamily Apoidea and the family Apidae and the order Hymenoptera. There are six species of *Apis* viz., *Apis cerana indica*, *Apis florea*, *Apis dorsata*, *A. andreniformis*, *A. laboriosa* and *A. koschevnikovi* which are indigenous to India and *A. mellifera* which has been introduced from European countries. The commercialized honey bees in India are two domesticated bees, *Apis mellifera* and *Apis cerana*. and two well-known wild species, *Apis dorsata* and *Apis florea* they have well developed stings.

The Dammer bee or little bee or stingless bee, *Trigona iridipennis* (Meliponinae) has only a vestigial sting. All species are social insects living in colonies with remarkable degree of social instincts and division of labour among the different members of the colony.

Commercial Methods of Rearing of Honey Bees:

The modern method/commercial method of rearing honey bees is known as frame hive method. This was introduced by L. L. Longstroth in 1851 for the first time in the world. This method uses movable frame for bees to build combs and store honey. Movable frame hives is also called Longstroth hive which is suitable for rearing european bee, *Apis mellifera*. The beekeeping industry in India began in 1910 with the introduction of the newton hive by father newtons. This hive is suitable for rearing Indian bee, *Apis cerana indica*.