

JANATA SHIKSHAN SANSTHA'S
KISAN VEER MAHAVIDYALAYA, WAI - 412803
Department of Zoology

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Date: 21/12/2021

To

The Principal
Kisan Veer Mahavidyalaya,
Wai - 412803

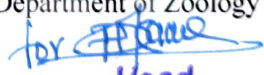
Subject: - Regarding permission to visit "Apiculture Centre" Mahabaleshwar

Respected Sir,

As a part of Curriculum, student of B.Sc. III (Zoology) are visiting the "Apiculture Centre" Mahabaleshwar on 25/12/2021. Mr. R.V. Bakare will escort the team. You are requested to sanction the permission for the same.

Thanking you,

Yours faithfully,

Head,
Department of Zoology

Head
DEPARTMENT OF ZOOLOGY
Kisan Veer Mahavidyalaya
Wai 412803



Janata Shikshan Sanstha's
KISAN VEER MAHAVIDYALAYA, WAI
DEPARTMENT OF ZOOLOGY

Certificate Of Attendance

This is to certify that Shri / Miss Nikam Riya Ravindra of
Class B.Sc. Part III Roll No. 03.....Exam Seat No 31556.....has
attended the Local Visit arranged to Bee Keeping Centre, Mahabaleshwar

25.12/2022

[Signature]
Teacher-in -Charge

[Signature]
Head, Dept. of Zoology

[Signature]
Examiner

Page No.

Date: 25/12/22

A Report Of Visit To Bee keeping

Centre Mahabaleshwar, Dist :- Satara.

Day & Date of visit :-

Time of visit :- 10:00 Am to 04:00 Pm.

Introduction:-

What is Apiculture:-

Modern scientific method of rearing & keeping bees is called as Apiculture. The use of honey was known to man since earlier times throughout the world. It is highly nutritive & has base for ayurveda medicine. Bee keeping is practiced in India long back. It was due to efforts of khadi & villages In 1962. Central Bee Research Training Institute has been established at Pune.

Considering the importance of Apiculture in our syllabus. We visited Bee keeping Centre situated at Mahabaleshwar, which is the first apiculture centre in Maharashtra established by Mumbai Khadi Gramudhyog Committee in 1946.

Types of Honey bees:-

Honeybee belongs to class- Insecta;
Order- Hymenoptera; family- Apidae. There are
five well-recognised types of bees
found in the world.



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- (i) *Apis dorsata* - Rock bee
- (ii) *Apis florae* - Little bee
- (iii) *Apis indica* - Indian bee.
- (iv) *Apis mellifera* - European bee.
- (v) *Apis adamasni* - African bee.

Out of these five types, there are common in India. They are *Apis dorsata*, *Apis florae*, *Apis indica*.

Types of Bees	Size of Bee	Size of comb	yield
<i>Apis dorsata</i>	20mm (largest of all)	0.90 x 15m	15 kg/year
<i>Apis florae</i>	Miniculture of rockbee	15.24 cms	Few grams/year
<i>Apis indica</i>	large size	30 cm	3.5 kg/year
<i>Apis mellifera</i>	smaller than rock bee larger than <i>florae</i>	45 x 25 x 2.5 cms	100 x 400 kg/year
<i>Apis adamasni</i>	Smaller than rock bee; large than <i>florae</i>	45 x 25 x 2.5 cms.	100 kg per hive per colony.

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Costs of Honey bee :-

Honey bee is social insect. There are three types of individuals in the colony namely the queen, drone & worker.

(i) Queen :-

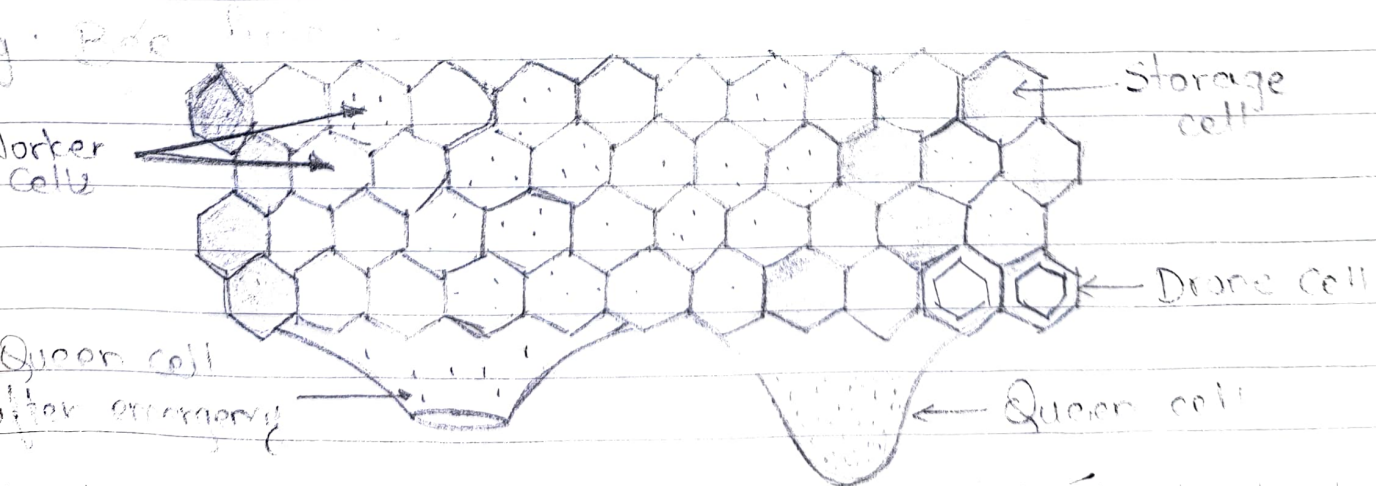
It is diploid, fertile female & size of queen is much larger than other bees she. lays about 1000-1500 eggs per day.

(ii) Drone :-

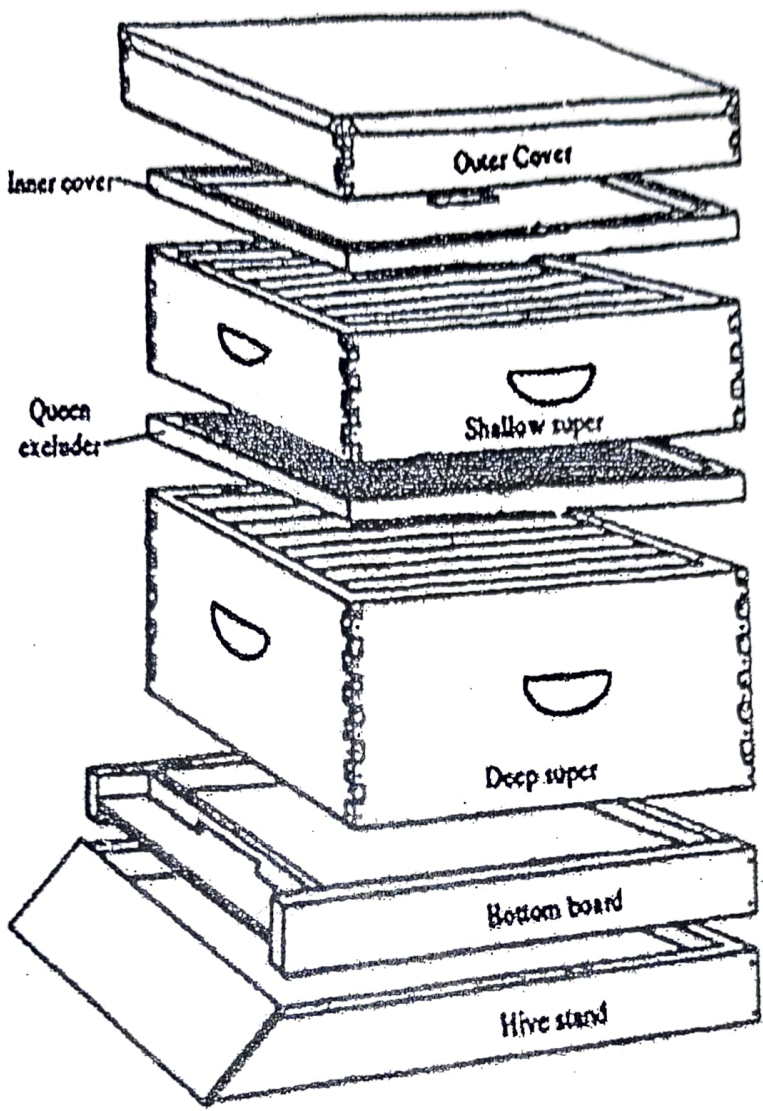
It is haploid fertile male, larger than workers. They main in hive for most of the days. They only fertilize the female / Queen.

(iii) Worker :-

These are more in number. It is diploid sterile female. She performs all the functions of colony, like to called honey & nectar to look after the young ones, cleaning the comb, etc. The life span of worker bee is about 4-5 months. techniques.



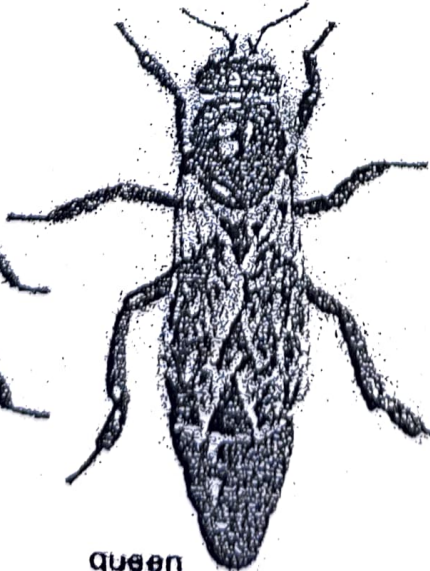
Bee Box for Apiary: Cultivating Bees and for collection of honey



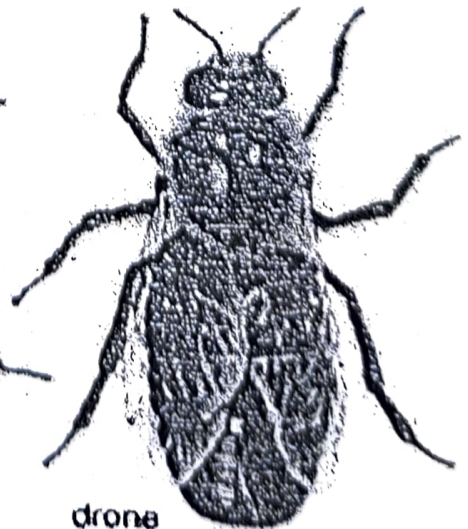
honeybee (*Apis mellifera*)



worker



queen



drone

It involves following two steps.

(i) Rearing :-

In this centre, artificially prepared bee hives are kept of suitable places. In these hives honeybees are reared. At first released single queen is with same bees in hive. Later on due to specific queen substance all workers get stimulated & start working. Thus collection of honey takes place but such honey consists of requires several pollen grains & extra water. Hence, it requires processing.

(ii) Processing Unit :-

Frames containing honey are kept in centrifugal machine & honey is extracted without any damage to hive & bees that machine is known as "Honey extractor". This honey is then transferred to processing unit.

At first laboratory tests are concluded for identification of composition & various sugar percentages. Then the honey is filtered. Thus, after cooling pure honey is packed in small plastic jars for sale.

Diseases & Enemies of Bees:-

They sac Brood a viral disease mostly seen in bees one of the most dreadful found prevalent amongst bees is 'Brood foul' occurs due to schizomyces fungi. Some of the bee enemies which directly or indirectly affect them are Bear King crow, Bee eaten snake worms, etc.

Economic importance of Apiculture:-

Honeybees are the best & busiest creatures of the earth. These are the best pollination agents leading to increase in crop yield therefore to increase the pollination. These is the main aim of Apiculture. Apart from pollination honey of & bee wax are the two valuable chief products obtained from bee keeping industry.

(i) Honey:-

Honey is viscous, sugary fluid formed from the nectar within the stomach of honeybees.

Chemical Composition:-

Glucose: 35%	Sugar: 5%
Water : 20-25%	Fructose - 35-40%
Acids : 0.2%	protein - 0.25%
Minerals: 0.5%	

1 tablespoon honey gives 100 Calories.

Honey is the best, richest & highly nutritious food in the world. It is a very good source of minerals, enzymes & vitamins. Honey is a substance used for number of Ayurvedic medicines, from ancient times because it is free from any adverse effects at cough, cold, fever & gastro. intestinal disorders.

(ii) Bee Wax :-

It is an organic compound secreted by wax glands of water bees. It is used in manufacturing of cosmetics, cold cream, shaving creams, polishes, candles, lipsticks & lubricants & in modeling works.

(iii) Agricultural Benefit :-

Due to cross pollination, Apiculture practice is resulted in increasing crop production. The increased yield by cross-pollination can be shown with the help of following table.

plant	Self pollination %.	Bee pollination %.
Mulberry	64.45	89.12
Mausambi	58.00	79.00
Grapes	68.02	82.40
Onion	77.95	216.90
Brinjals	66.90	90.00
Karla	0.390	4.736

Some Interesting facts about Honeybees :-

- (i) A honeybees has to travel over 5500 miles & visits approx 2 million flowers to make one pound of honey.
- (ii) Honeybees are the only insects that produces for humans.
- (iii) Honey is the only food that includes all the substances necessary to sustain life, including water.
- (iv) Honeybees will usually travel 3 miles from their hive.
- (v) A single honeybee will only produce 1/12 tea spoon of honey in her lifetime.

(vi) Honeybees are entirely herbivorous when they forage for nectar & pollen, but can cannibalize their own brood when stressed.

(viii) Honey speeds the healing process & combats infections.

(vii) Honey never spoils.

(ix) Honeybee colonies have unique odors that members flash like ID cards at the hive's front door, so the guard bees can recognize the entering bees.

(x) Honeybees are responsible for approx 80% of all fruit, vegetables & speed crops in the world.



PROCESSING PLANT

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संविधान चिह्न

स्वच्छता रखा

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