

# **The Complete Book on Beekeeping and Honey Processing (2nd Revised Edition)**

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Beekeeping is the maintenance of honey bee colonies, commonly in hives, by humans. Bees are accommodated in artificial lives where they live comfortably within easy reach of the bee keeper for examination and extraction of surplus honey, after keeping of sufficient honey in the combs for the bees. Honey is a product of bees, which gather sugar containing nectars from flowers. Honey should be processed as soon as possible after removal from the hive. Honey processing is a sticky operation, in which time and patience are required to achieve the best results. Careful protection against contamination by ants and flying insects is needed at all stages of processing. Bee honey is natural, unrefined food consumed as much in fresh or canned state. It is readily assimilated and is more acceptable to the stomach, particularly in the case of ailing persons, than cane sugar. It is an antiseptic and is applied to wounds and burns with beneficial results. Honey collection and its marketing in India are still not fully organised. The main uses of honey are in cooking, baking, as a spread on breads and as an addition to various beverages such as tea and as a sweetener in commercial beverages. Honey is the main ingredient in the alcoholic beverage mead, which is also known as honey wine or honey bear, honey is also used in medicines. A number of small scale industries depend upon bees and bee products. Honey and bee products find use in several industries which are under; pharmaceuticals, meat packing, bees wax in industries, bee venom, royal jelly, bee nurseries, bee equipments and hives etc. There is considerable demand for the honey and other products. Outside the thousands of homemade recipes in each cultural tradition, honey is largely used on a small scale as well as at an industrial level.

Some of the fundamentals of the book are history of beekeeping in India present, all India coordinate research project on honey bee research and training, future plan for development, the pattern of beekeeping today, development of beekeeping equipments, beekeeping industry and honeybee species, bee hive products, medicinal properties of honey, bees and agriculture, pesticidal poisoning to honeybees, handling bees, queen rearing and artificial queen, beekeeping and ancillary industries, honey based industries, honey in pharmaceuticals, honey in meat packing, beeswax in industries, bee stings precautions and treatment.

The book contains the steps of bee keeping in proper manner and details of honey processing. This book is an invaluable resource for new entrepreneurs, technocrats and also for established enterprises.

## **1. HISTORY OF BEEKEEPING IN INDIA PRESENT**

## STATUS AND FUTURE

### HISTORY OF BEEKEEPING IN INDIA

Beekeeping Extension

Khadi and Village Industries Commission

State Khadi and Village Industries Board

Directly Aided Organisation

All India Beekeepers' Association (AIBKA)

### BEEKEEPING RESEARCH

Department of Agriculture and Colleges

Apicultural Research Laboratory, Mahabaleshwar (M.S.)

Central Bee Research and Training Institute (KVIC)

All India Co-ordinated Research Project on Honey Bee Research and Training

Punjab Agricultural University

Other Apicultural Departments

### TRAINING IN BEEKEEPING

### MARKETING OF BEE-PRODUCTS

### PRESENT STATUS

Extension

Research

Training

Marketing

### CONSTRAINTS

### FUTURE PLAN FOR DEVELOPMENT

The Changing Scenario Under KVIC

Indian Council of Agricultural Research

### NATIONAL BEE BOARD

Action Plan

Extension

Research

Training and Education

Marketing

## 2. WORLD SCENARIO IN BEEKEEPING

### THE PATTERN OF BEEKEEPING TODAY

### RACE OF HONEYBEES

Dark bees, *A. mellifera mellifera* L.

Italian bees, *A. mellifera Ligustica* Spin

Carniolans, *A. mellifera carnica* (Pollmann)

Caucasian, *A. mellifera caucasica* Gorb

### HONEY PRODUCTION

### BEEKEEPING IN EUROPE

### GRADING, PACKING AND MARKETING OF HONEY

### INJURY TO HONEYBEES BY POISONING

## 3. BEEKEEPING IN INDIA – ROLE OF KVIC

### KVIC

### GROWTH OF BEEKEEPING UNDER KVIC

Organisational Set Up of Beekeeping Under KVIC

Growth of Beekeeping in Different States/Areas

### DIRECTORATE OF BEEKEEPING

### ORGANISATIONAL SET UP UNDER CBRTI, PUNE

Apiculture

Development of Beekeeping Equipments:

Role of RBRCs/FOS

Introduction of Exotic Bees

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Bee Pathology  
Bee Botany and Melletopalyonology  
Bee Pollination  
Queen Rearing and Bee Breeding  
Rock Bee  
Bee Chemistry  
Training

Bee Library

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BEE FLORA

EQUIPMENT AND MANAGEMENT

GENETICS AND BREEDING

DISEASES & ENEMIES

POLLINATION OF CROPS

HONEYBEE PRODUCTS

PESTICIDAL POISONING

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APIS MELLIFERA

THE MAJOR CONSTRAINTS FOR THE  
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ARE AS FOLLOWS

Using the Correct Species for Beekeeping

Availability of Genetically Superior Queens  
for Increased Honey Production

Lack of Technical Knowledge for Efficient

Management of Colonies for High Honey Yields

Lack of Infrastructure at the Grass Roots and National Level for Beekeeping

Poor Quality Control for the Production of Honey

Emphasis on Production of Honey Instead of other Bee Products

Bees Wax

Pollen

Propolis

Bee Venom

Royal Jelly

Disease Prevention, Control and Analysis

Lack of Sufficient Financial Help from Government  
and Lending Institutions for the Development of  
Beekeeping

No Tax or Other Monetary Benefits for Beekeeping

No Control on the Use of Pesticides by Farmers

Leading to Death of Bee Colonies in Field Locations

Pricing Structures for Honey

Lack of Finances for Packers or Beekeepers to be  
Able to Store Honey

Beekeeping Being not Recognized as a Priority Agricultural Activity and Getting Governmental  
Support

There is No Promotion of Mass Planting of

Bee Flora

Apiculture not Being Recognized as a  
Specific Field

Lack of Consumer Awareness of Honey  
and its Products

Beekeeping not Being Considered as  
an Employment Generation Activity

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SOCIAL BEHAVIOUR OF HONEYBEES

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QUEEN - PRODUCED ODOURS

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Prevention of Worker Ovary Development

Attraction of Drones for Mating

Attraction of Swarms and their Stabilization

Stimulation of Nasonov Pheromone Release

and Worker Foraging

QUEEN ATTRACTIVENESS AND RECOGNITION

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COLONIES

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