

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

Author: NPCS Board of Consultants & Engineers

Format: Paperback

ISBN: 9788190568555

Code: NI203

Pages: 544

Price: Rs. 1,475.00 US\$ 150.00

Publisher: NIIR PROJECT CONSULTANCY SERVICES

Usually ships within 5 days

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 bees 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 co ordinate 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.

Contents

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 Beekeepersâ€™ 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 INDIAâ€™ 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
Entomology
Bee Pathology

Bee Botany and Melletopalyonology

Bee Pollination

Queen Rearing and Bee Breeding

Rock Bee

Bee Chemistry

Training

Bee Library

4. BEEKEEPING RESEARCH SET-UP,
ACHIEVEMENTS AND FUTURE STRATEGIES
RESEARCH ACHIEVEMENTS AND FUTURE
STRATEGIES

Beekeeping Industry and Honeybee Species

BEE FLORA

EQUIPMENT AND MANAGEMENT

GENETICS AND BREEDING

DISEASES & ENEMIES

POLLINATION OF CROPS

HONEYBEE PRODUCTS

PESTICIDAL POISONING

5. MAJOR CONSTRAINTS IN BEEKEEPING

BEEKEEPING WITH APIS CERENA INDICA AND
APIS MELLIFERA

THE MAJOR CONSTRAINTS FOR THE
DEVELOPMENT OF BEEKEEPING IN INDIA
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

CONCLUSION

6. BEES AND THEIR ECONOMIC IMPORTANCE

WILD BEES

SPECIES OF HONEYBEES

7. MORPHOLOGY, ANATOMY, COLONY ORGANIZATION AND LIFE CYCLE

MORPHOLOGY

ANATOMY

COLONY ORGANIZATION

DEVELOPMENT

POINTS OF CASTE DISTINCTION

8. BEEKEEPING EQUIPMENTS

LANGSTROTH TEN-FRAME HIVE

NEWTON HIVE

OTHER BEEKEEPING EQUIPMENTS

EQUIPMENTS FOR HANDLING BEES

9. SEASONAL ACTIVITIES AND SOCIAL

BEHAVIOUR OF HONEY BEES

SOCIAL BEHAVIOUR OF HONEYBEES

SEQUENCE OF ACTIVITIES IN THE LIFE OF BEES

DIVISION OF LABOUR

COMMUNICATION AND MEMORY OF HONEYBEES

Dance Language

CHEMICAL COMMUNICATION

PHEROMONES

WORKER PRODUCED ODOURS

QUEEN - PRODUCED ODOURS

Inhibition of Queen Rearing and Swarming

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

Other Pheromones

CONTROL OF REPRODUCTION IN HONEYBEE

COLONIES

Foraging Activities

Nectar

Pollen

Water

Propolis

Maintenance of Nest/Hive Temperature

FORAGING RANGE

WORKING HABITS OF FIELD BEES

SPEED OF FLIGHT

COLONY DEFENCE ACTIVITIES

10. FOOD OF THE HONEYBEES, BEE FLORA
AND HONEY FLOW PERIODS

FOOD OF THE HONEYBEES
BEE FLORA
NATURAL AND ORNAMENTAL FLOWERS
PROPAGATION OF BEE PLANTS
11. SEASONAL MANAGEMENT OF HONEYBEE COLONIES
WINTER MANAGEMENT
Adequate Population of Young Bees
Stores of Food in a Colony
Protection from the Humidity and Cold
(a) Reduced Entrance and Adequate Ventilation
(b) Winter Packing
SPRING MANAGEMENT
SWARMING
CATCHING THE SWARM
PREVENTION OF SWARMING
MANAGEMENT DURING HONEY FLOW
HONEY EXTRACTION
SUMMER MANAGEMENT
MONSOON MANAGEMENT
POST-MONSOON MANAGEMENT
CONTROL OVER DESERTION OF BEE COLONIES
12. MIGRATORY BEEKEEPING
TRANSPORTATION OF BEE HIVES
13. DISEASES OF BEES AND THEIR ENEMIES
VIRAL DISEASES
Thai Sac Brood Virus
Apis Iridescent Virus
Kashmir Bee Virus
Bee Viruses not Found in India
BACTERIAL DISEASES
American Foul Brood
European Foul Brood
PROTOZOAN DISEASE
Nosema Apis
FUNGAL DISEASES
MITES
Acarapis Woodi
Varroa Jacobsoni
Tropilaelaps Clareae
INSECT ENEMIES OF BEES
Wax Moths
Greater Wax Moth
Lesser Wax Moth
Predatory Wasps
Black Ants
BIRDS AND OTHER ENEMIES
14. BEE HIVE PRODUCTS
TYPES OF HONEY
CHEMICAL COMPOSITION
PHYSICAL PROPERTIES OF HONEY
HYGROSCOPICITY
VISCOSITY
SPECIFIC GRAVITY AND REFRACTIVE INDEX

AROMA AND COLOUR
HONEY, AN ENERGY FOOD
Nutritive Value of Honey
Honey - A Tonic
Consumption of Honey
Anti-bacterial Effects
MEDICINAL PROPERTIES OF HONEY
Honey as Medicine
HONEY IN INFANT FEEDING
HONEY AND DIABETES
Diabetes
Composition of Honey
HONEY IN HOME PREPARATIONS
Honey Spread
Honey Water
Comb Honey
Honey in Cooking and Baking
Honey in the Kitchen Angel Biscuits
Honey Butter
Apple-Oats-Musli
Orange-Apple-Musli
Carrot Salad with Honey
Comb Lemon Squash
Honey Mango Squash
Honey Jam
Honey Candy
Honey and Egg
Honey Ice-cream
Honey Chocolate
Honey Chikki
Honey Jelly
Honey Soap
OTHER USES OF HONEY
GRANULATION
MOISTURE CONTENT AND FERMENTATION
Honey Processing
CONSTRUCTIONAL DETAILS OF THE HONEY PROCESSING UNIT
WORKING OF THE UNIT
TIPS TO USE HONEY
TESTING OF HONEY FOR PURITY
Pollen
COMPOSITION
USES
BEES WAX
CHEMICAL COMPOSITION
PHYSICO-CHEMICAL PROPERTIES
USES
EXTRACTION OF WAX
Extraction Over Boiling Water
Chemical Bleaching
By Wax Presses
15. BEES AND AGRICULTURE
CROSS-POLLINATION OR OUTCROSSING

BIOTIC POLLINATION
EFFICIENCY OF POLLINATING BEES
ORCHARD MANAGEMENT
PLACEMENT OF HIVES IN ORCHARDS
LOCATION OF THE HIVES
ROLE OF BEES IN SUSTAINABLE AGRICULTURE
AND ENVIRONMENT
BREEDING BEES FOR POLLINATION OF SPECIFIC CROPS
POLLINATION REQUIREMENTS OF CROPS
EFFECT OF INSECT POLLINATION ON
ENVIRONMENT
MANAGEMENT DURING POLLINATION
16. NON-APIS BEE POLLINATORS
NESTING HABITS
BEE NESTING MATERIALS
TRAP-NESTING SOLITARY BEES IN THE
HUMID AND WET TROPICS
Material Preparation
Placement of Artificial Domiciles for Bee Culture
Bees Commonly Using Trap Nests
Nest Parasites and Pests
Recommendations for Future Work
FORAGING CYCLE IN RELATION TO
SEASONALITY OF THE HOST PLANTS
Role of Non-Apis Bee Pollinators in Seed/Fruit
Production
PRESENT STATUS OF MANAGEMENT OF
NON-APIS BEE POLLINATORS
Conclusions and Future Strategies for Management
and Conservation of Wild Bee Pollinators
17. PESTICIDAL POISONING TO HONEYBEES
HOW ARE BEES EXPOSED TO
PESTICIDAL HAZARDS
SYMPTOMS AND EFFECTS OF PESTICIDAL
POISONING
PESTICIDES AND THEIR RELATIVE
TOXICITY TO BEES
PESTICIDES MOST TOXIC TO BEES
PESTICIDES VERY TOXIC TO BEES
PESTICIDES LESS TOXIC TO BEES
PESTICIDES LEAST TOXIC TO BEES
REDUCE PESTICIDAL POISONING TO BEES
CARE OF THE POISONED COLONIES
PLANT POISONING TO BEES
18. BEE PASTURAGE
NECTAR-SUGAR CONCENTRATION
NECTAR COMPOSITION
FACTORS AFFECTING NECTAR SECRETION
BEE FLORA OF INDIA
Avenue, Amenity and Timber Tree
Fruits
Cultivated and Wild Bushes, Shrubs and Field Crops
Vegetables

Ornamentals

19. QUEEN REARING AND ARTIFICIAL QUEEN

BEE INSEMINATION

SELECTION OF MOTHER STOCK

BIOLOGICAL BASIS OF QUEEN REARING

METHODS OF QUEEN REARING

ARTIFICIAL MATING

INSTINCT OF REPRODUCTION AND RELATED

MANAGEMENT

CONTROL OF REPRODUCTION

QUEEN AND ITS MANAGEMENT

LAYING WORKERS

REPRODUCTION OF SPECIES " SWARMING,

PREVENTION AND CONTROL

MAKING COLONY INCREASE

20. BEEKEEPING AND ANCILLARY INDUSTRIES

BEEKEEPING AND ANCILLARY INDUSTRIES

Honey Based Industries

Honey in Pharmaceuticals

Honey in Meat Packing

Beeswax in Industries

Bee Venom

Royal Jelly

Bee Nurseries

Bee Equipments and Hives

21. HANDLING BEES

INTRODUCTION

BEHAVIOUR OF BEES

WHEN TO MANIPULATE BEES

HOW LONG TO KEEP A HIVE OPEN

DRESS AND PERSONAL HYGIENE

MANIPULATION TECHNIQUES

MANIPULATING DIFFICULT COLONIES

BEE STINGS PRECAUTIONS AND TREATMENT

PRECAUTIONS

IMMEDIATE CARE

BEE VENOM AND ITS MEDICINAL VALUE

STINGING BEES IN WAR FARE

22. MARKETING OF BEE PRODUCTS

23. HONEYBEES - ENVIRONMENTAL QUALITY INDICATORS

24. HONEY ANALYSIS

DESCRIPTION

METHODS OF ANALYSIS AND SAMPLING

MISCELLANEOUS

METHODS OF ANALYSIS

Qualitative Fieche's Test

PROCEDURE

Specific Gravity

PROCEDURE

Water Moisture Content (%)

Total Reducing Sugars

PROCEDURE

Non Reducing Sugars (sucrose)

PROCEDURE

25. PROMOTION OF BEEKEEPING IN KERALA

26. PROMOTION OF BEEKEEPING IN PUNJAB

HISTORICAL ACCOUNT OF BEEKEEPING

DEVELOPMENT IN PUNJAB

SUPERIORITY OF A. MELLIFERA OVER

INDIGENOUS HONEYBEE

CLIMATIC SUITABILITY

MAJOR BEE FLORA AND THEIR VALUES

TRAINING IN BEE MANAGEMENT

DEVELOPMENT OF BEEKEEPING IN PUNJAB

SPREAD OF A. MELLIFERA IN OTHER STATES

SUBSIDIARY INDUSTRIES AND RURAL ECONOMY

FUTURE PROJECTIONS

MARKETING OF HONEY

OBJECTIVES OF PUNJAB STATE BEEKEEPERS ASSOCIATION

CASE HISTORY OF IMPORTANT BEEKEEPERS

27. BEEKEEPING IN HIMACHAL PRADESH

BEEKEEPING WITH A. MELLIFERA

MIGRATORY BEEKEEPING

DISEASES AND ENEMIES OF A. MELLIFERA

PROBLEMS FACED BY BEEKEEPERS OF

HIMACHAL PRADESH

HONEY : MEDICINE FOR HEALTH, FRESHNESS & BEAUTY

28. CONCLUSIONS AND FUTURE STRATEGIES

29. BEE FORAGE IN INDIA

30. PLANT & MACHINERY PHOTOGRAPHS

31. ADDRESSES OF PLANT & MACHINERY SUPPLIERS

About NIIR

NIIR PROJECT CONSULTANCY SERVICES (NPCS) is a reliable name in the industrial world for offering integrated technical consultancy services. NPCS is manned by engineers, planners, specialists, financial experts, economic analysts and design specialists with extensive experience in the related industries.

Our various services are: Detailed Project Report, Business Plan for Manufacturing Plant, Start-up Ideas, Business Ideas for Entrepreneurs, Start up Business Opportunities, entrepreneurship projects, Successful Business Plan, Industry Trends, Market Research, Manufacturing Process, Machinery, Raw Materials, project report, Cost and Revenue, Pre-feasibility study for Profitable Manufacturing Business, Project Identification, Project Feasibility and Market Study, Identification of Profitable Industrial Project Opportunities, Business Opportunities, Investment Opportunities for Most Profitable Business in India, Manufacturing Business Ideas, Preparation of Project Profile, Pre-Investment and Pre-Feasibility Study, Market Research Study, Preparation of Techno-Economic Feasibility Report, Identification and Section of Plant, Process, Equipment, General Guidance, Startup Help, Technical and Commercial Counseling for setting up new industrial project and Most Profitable Small Scale Business.

NPCS also publishes various process technology, technical, reference, self employment and startup books, directory, business and industry database, bankable detailed project report, market research report on various industries, small scale industry and profit making business. Besides being used by manufacturers, industrialists and entrepreneurs, our publications are also used by professionals including project engineers, information services bureau, consultants and project consultancy firms as one of the input in their research.

