

Bee Keeping

KVKs: Morena, Damoh, Balrampur

World scenario of bee keeping

- ▶ Major honey producing countries are China, USA, Mexico, Argentina, Ukraine, Turkey, Russia & India
- ▶ China is major Asian country producing nearly 1.6 lakh M.T. of honey, 12800 M.T. of beeswax.
- ▶ It also produces 1000 M.T. of pollen and 800 M.T. of royal jelly.

Status of bee keeping in India

- ▶ **No. of bee colonies** – About 18 lakhs.
- ▶ **Honey production** – 75-80000 MTs / year (54.15% from domesticated & 45.85% from wild)
- ▶ **No. of bee keepers** – 2.50 lakhs
- ▶ **Avg. yield** - 20.11kgs./hive/year from commercial hives

Source- National Bee Board, 2014-15

State-wise details of bee species in use in India

- (a) **North** - Delhi, U.P., Haryana, Punjab, H.P.- *A. mellifera* Uttrakhand & J & K. – *A. cerana*
- (b) **South** – A.P., Karnataka, Kerala, T.N., Pondichery, Andaman & Nicobar, etc.- *A. cerana*
- (c) **East** – Bihar & WB -(*A. mellifera*), Odisha, All NE States (8), Chhattisgarh & Jharkhand, - *A. cerana*
- (d) **West** – Rajasthan- (*A. mellifera*), Gujarat, Maharashtra, M.P., Goa - *A. cerana*.

Composition of honey		Recommended dose for honey consumption	Honey consumption per capita/ year
Constraints	Percentage		
Carbohydrates	36-42	10-15 g/ day for child	India – 5 g Switzerland & Germany – 1.5 kg USA – 1 kg France, Japan & Italy – 250 g
Fructose	30-35	30-35 g/ day for young people	
Glucose	1-3.9	30-50 g/ day for healthy people	
Sucrose	1-2.5	20-30 g/ day for old people	
Moisture content	16-22	For patient as per advice of Doctor	
Ash	0.2		
Others	3.2		



Thematic area	Additional income generation
Description of Technology Adopted	<ul style="list-style-type: none"> ❖ Bee keeping by scientific method ❖ Capacity building of farmers for bee keeping ❖ Provide the necessary inputs ❖ Collection of honey through honey extractor drum (without damage bee hive) ❖ Care & Maintenance of bee colony

Characteristics of technology

Characteristics	Unit
No. of Bee Hives	Per Unit area
Production of honey	Kg./ bee box
Pollination in crop	Increase of yield (in %)
Extra income	Rs/ha
Employment generation	Days/year



Hon'ble Min. of Agri. & Farmer Welfare
Sh. Radha Mohan Singh along with
Parliament Committee at KVK, Morena



Hon'ble Ex Min. of Ag., & Farmer Welfare
Govt. Of MP, Sh. R. K. Kushmariya
at KVK, Damoh



Honey World Day

Horizontal spread of technology

Districts	No. of Villages covered	No. of Farmers	No. Units in the district	Honey production (qt.)
Morena (MP)	105	5600	75000	14100
Damoh (MP)	17	42	42	203
Balrampur (CG)	79	775	100	1400

Name of schemes supported by Central/State Govt. in large scale dissemination under Convergence:

Central Govt.	State Govt.
<ul style="list-style-type: none"> Prime Minister Employment Generation Programme (PMEGP) National Horticulture Mission KVIC (Khadi Village & Industry Commission) TSP ITDP (Integrated Tribal Development Programme) 	<p>In MP :</p> <ul style="list-style-type: none"> M.P. State Agro Industries Development Corporation Ltd M.P. State Agriculture Marketing Board <p>In CG :</p> <ul style="list-style-type: none"> CSSDA (CG State Skill Development Authority)



Economics of adopted technology

Bee species	Cost (Per Unit) Rs	Gross return Rs (Per Unit)	Net return Rs (Per Unit)	B:C ratio
<i>Apis cerena</i>	6230/-	12200/-	6030/-	1.95
<i>Apis mellifera</i>	14500/-	38225/-	23725/-	2.64

Profits from Beekeeping

Bee Wax

Composition of bee wax	Uses	Yield and Value
<ul style="list-style-type: none"> ▪ Esters & fatty acids 70-75% ▪ Free acids – 15% ▪ Saturated carbons – 12-15% 	<ul style="list-style-type: none"> ▪ Use to constituent of cosmetics ▪ Use to prepare medicines (Ointments, capsules, etc.) ▪ Use to prepare paints-Varnishes 	<ul style="list-style-type: none"> ▪ 800-1000gm / colony/ year (<i>Apis mellifera</i>) ▪ Rs. 200-300 / kg

Bee Pollen

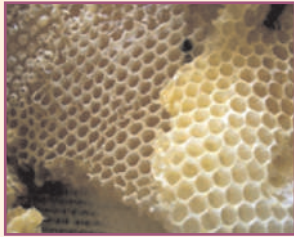
Composition of Dry Pollen		Uses	Yield and Value
Constraints	Percentage		
Water	11	Supplementary food Useful in anemia Lowering BP & improves appetite	8-10 kg / colony / year (<i>Apis mellifera</i>) Rs. 500-700 / kg
Crude Protein	21		
Carbohydrates	32		
Fat	5		
Ash	3		
Others	29		

Bee Propolis

Composition of bee propolis		Uses	Yield and Value
Constraints	Percentage		
Resins & balsams	45-55	Use to increase antimicrobial activity Use to prepare ointments Use in preparation of cosmetics Use in treatment of cuts & wounds	300-400 g / colony/ year (<i>Apis mellifera</i>) Rs. 1000-1500 / kg
Waxes & fatty acids	25-30		
Essential oils	10		
Pollen, protein & amino acids	5		
Minerals	5		

Royal Jelly

Composition of Royal jelly		Uses	Yield and Value
Constraints	Percentage		
Water	57-70	Use to increase vigour and vitality Use to prevent obesity Use to improves appetite Use to normalize metabolism Use for other medicinal purposes	200 mg / queen cell / Year (<i>Apis mellifera</i>) Rs. 25000 /kg
Protein	17-45		
Sugars	18-52		
Lipid	3.5		
Minerals	2-3		
Vitamins	Rich in vita.		



Bee Wax



Bee Pollen



Bee Propolis



Royal Jelly

Impact of Bee keeping technology

Economical	Social
<ul style="list-style-type: none"> ❖ Extra income through honey Rs. 3000 – 6400 /ha ❖ Yield increased up to 17.22% in Niger, 15.62% in pigeon pea, 14.18 in Green gram, 17.21 in Black gram and 26.66% in mustard crop. ❖ Bee pollination results not only in yield increase but also improvement in quality of produce. ❖ Beeswax and other products ❖ Nectar and pollen can harvested ❖ 325 man days employed/year under this adopted technology. 	<ul style="list-style-type: none"> ➤ Creating employment opportunities in rural social area. ➤ Beekeeping encourages ecological awareness . ➤ Encouraging beekeeping encourages the maintenance of biodiversity. ➤ Different sectors and trades benefit from a strong beekeeping



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