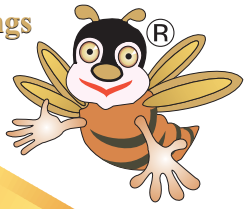
Honey & other Bee Products

A Scientific & General Information

The Golden Gift of Nature
for The Health of Human Beings



- ***Here's Pure Honey!!....***
  Satmaha's Honey…….
  The Joy of True Nature.
  Useful to improve intelligence,
  develop a lean body,
  unmatched stamina & immune power.
  Nature's true gift to humanity.

- ***Always purchase honey……***
  On the base of
  scientific knowledge about it.

- ***Be aware from cheaters in market!***
  Protect yourself……
  Be an alert consumer.

Writer :
Sudhirsing Patil

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Satmaha Naturorich Products

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Some photographs of flora useful for honey-bees

Sunflower

Karvia

Karvia

Mustard

Karanja

Litchi

Drumstick

Jambhul

Eucalyptus

Fruit of Hirda

Satmaha's

Registered
Trade Marks

Scientific information about Genuine Honey.

Definition of honey : Honey is a concentrate liquid solution of naturally digested body sugars collected from honey-bees.

Honey-bees collect liquid nectar in pure natural sucrose form, from 50 to 100 flowers of plants at a time. Having sufficient stock, they return to hive and store it into the hexagonal cell by mixing various types of digestive enzymes (Refer chart I) in it. The digestive enzymes convert Nectar into the digested body sugars like glucose, fructose, dextrose, laevulose etc. This digested body sugar product of honey-bees is called as Honey. **Honey-bees collect *Nectar* in pure sucrose form, from flowers & we collect *Honey* in digested body sugars form, from honey-bees.**

The honey contains nutrients like carbohydrates (digested body sugars), proteins, amino-acids, minerals, enzymes, vitamins etc. having various medicinal properties according to source flora (Refer chart I). The honey collected from a single type of inflorescence of plants, in flowering seasons of various regions is called as **Uni-floral honey.** This honey has typical light to dark color-shades, taste, aroma and medicinal properties according to the source flora (Refer chart II).

To have exact judgment of genuine honey in general, the consumers must understand the points given below about genuine honey.

1) Honey is a concentrate of naturally digested body sugars by honey-bee. It is a scientifically proved fact that "Concentrate solution of water soluble substance like sugar, salt etc. tends to crystallize in specific period". The crystals formed in solution, can be dissolved by giving heat to the solution. Like that genuine honey also has a natural tendency of crystallization in some period of storage time & can be dissolved by giving indirect heat through hot water and starring it with a spoon. It is better to dissolve honey below 65^{0}C, to avoid loss of enzymes & nutrients in it. **It is the misunderstanding that "crystallization of honey means adulteration or quality degradation".** Like pure ghee, Crystallization of genuine honey does not effect the properties or quality of it. It is better to consume honey as it is, in crystalline form, as it gets dissolved by our body temperature. Crystallization of honey takes place in short period than the sugar syrup of sulphated sucrose, the table sugar we use.

2) The Fructose/Glucose Ratio of honey collected in rainy or winter or summer season differs. Hence honey collected in rainy or winter season from inflorescence of plants, like Mustard, Eucalyptus, Sunflower, Karvia etc crystallize in less time compared to honey collected in summer season from inflorescences of plants like Jambhul, Hirda-Gela, Litchi etc.

3) The honey is collected from different species of honey-bees, by honey-hunting & bee-keeping activity, in various regions where unique flora of plants are available in specific seasons. The honey collected from the unique inflorescence of plant species is called as **Uni-floral honey** & collected from mixed inflorescence of plants is called as **Multi-floral honey.** The color-shade, taste, aroma & medicinal properties of genuine **Uni-floral honey** vary according to unique source of inflorescence available for honey production. For more information refer Chart-II.

4) **"Genuine honey is delicious in taste, not just sweet":** When we consume a spoonful of genuine honey, the sweetness of it, disappears within 15 seconds from our tongue, as it is a concentrate of digested body sugars by honey-bees & directly absorbed on tongue. It has a significant pleasing taste & aroma according to source flora. While the sweetness of syrup or any product prepared with sulphated white sugar we use generally persists upto 15 minutes on our tongue. It has the taste like lemon- toffee or sugar syrup. In **Ayurveda** honey is used as **Anupan** (Media), mixing it with ayurvedic medicines to get quick absorption of medicines & to enhance effects of them.

5) Genuine honey contains quantity of pollens, so it does not appear crystal-clear like sugar syrup.

6) Costs of **Uni-floral & Multi-floral** honey vary according to cost of efforts taken for honey collection and production in quantity we get, from different flowering plant inflorescences & species of honey-bee, region & season-wise.

7) For more information about Nutrients in honey refer chart-I & about types of **Uni-floral honeys** having specific medicinal property refer chart-II.

8) To know about quality control parameters performed in laboratory, mandatory to honey packers as per F.P.A. or BIS or AGMARK standards, see the chart-IV.

9) Now a days, the knowledge adopted from advance technology is used to manufacture artificial food products similar to natural products. The huge quantity of biotechnologically prepared, non-crystallizing golden color invert-sugar syrup, prepared from sulphated white sugar, similar to honey combination, containing de-crystallizing chemical reagents, antibiotics, sorbitol etc. is sold as honey in market, by exorbitant profit making companies, by the way of advertisement with stars through media. They decoy consumers giving free schemes. There is a rule that honey should be packed in wide mouth container only, as it has a natural tendency of crystallization. But these companies sale this non-crystallizing artificial honey in attractive quizzer bottles. They take advantage of lack of knowledge of consumers about general properties of genuine honey & most of consumers misunderstand that "crystallization of honey indicates adulteration". This product is harmful to our health if consumed regularly. **The taste of these products appears similar to cough syrup or liquid allopathic medicines.** This artificial product similar to honey is also called as 'Glory' of honey. It is also imported from china as honey.

10) Due to lack of knowledge about genuine honey, most of the consumers avoid to purchase crystallized genuine honey and prefer adulterated products available in attractive packing in market, appearing similar to liquid honey having crystal clear transparency.

11) Products manufactured under an **Ayurvedic license of sugar syrup** as **"Madhu"**, is sold instead of honey by giving exorbitant profit to sellers in market.

12) Prefer to purchase **"Sat-Maha's"** honey available in the market, in **Uni-floral & Multi-floral** forms, on packs of which source flora of honey is mentioned.

13) We "Satmaha Naturorich Products" stock sufficient quantity of **Uni-floral & Multi-floral** honey collected from various inflorescences in their seasons of various regions and try to avail it to consumers thought-out the year.

Processing & Packaging of Honey.

The raw honey contains excess quantity of pollen, honey-bee particles, other non soluble particles etc. If the moisture in honey is more than 22%, then the yeast cells present in it gets activated and fermentation of honey takes place. Hence it is necessary to process raw honey, to increase its storage life, by the way of Filtration, Moisture Reduction & Pasteurization at low temperature below 55^0C within 45 minutes, without having effect on enzymes & nutritional contents in it.

We have the honey processing plant of close system having Centrifuge (24 inch diameter) fitted with 20 micron filter media, attached with vacuum pump, jacketed pre-heating tank having temperature control device & heaters working on electricity, homogenizer, geared honey transfer pump and semi automatic bottle filling machines, all made-up of S.S.316 & 304 for processing and packaging of raw honey.

The liquid honey is heated up-to 55^0C by indirect heat given through flowing hot water and passed through centrifuge, fitted with 20 micron filter media, under 670mm/ Hg vacuum. The honey gets filtered separating some quantity of pollen and other insoluble particles in it. The vacuum reduces boiling point of honey upto 50^0C and excess moisture in honey is evacuated. Under vacuum, yeast cells present in honey are killed due to absence of oxygen or separated through filter media.

Satmaha's Honey Processing Unit

Satmaha's Honey Packaging Unit

Satmaha's honey is packed in **food grade PET containers** marked with its type of source flora in **Uni-floral & Multi-floral form.**

Uses of honey :

Indian subcontinent has abundance of Nature's Wealth. The significance of this Nature is that it has diverse Flora which ranges from Areca nuts to Apples. Various flora in different Weather Conditions and Geographical regions are available for Honey Collection. Honey collected from specific Flora naturally contains specific Plant Metabolites such as Phenolics, Flavonoids, Terpenes, Active Enzymes and Pollens. These Plant Metabolites cannot be artificially synthesized. The BARC's research on various Uni-Floral Honey has shown that these specific Active Metabolites in specific Uni-Floral honey are useful for Specific Health Benefits and to Maintain Best Human Health.

Satmaha's Honey is The Joy of True Nature... useful to humanity to improve intelligence, develops a lean body, unmatched stamina & immune power against diseases. Satmaha's honey in Uni-floral form is useful as a supplementary nutritional food having natural medicinal properties supporting to fight against or control on various health problems. Refer Chart- I & II.

1) The lemon sharbat prepared with lemon or lemon barley water 25 gm (two table spoons) of Satmaha's honey consumed two to three times / day, supply energy in calories & nutrients required for daily activities of our body. Hence it is useful to have control on deposition of excess fats causing obesity, by having control on over-eating.
2) 25 gm of honey dissolved in Luke warm water to be consumed in early morning & before sleeping at night is useful as supplementary nutritional food helping to get control on various diseases or to recover lack of nutrients in our body.
3) Use of 'Panchamrut' with meals, prepared from curd (50 gm), Milk (50ml), Pure cow milk Ghee (20gm), sugar (20gm) and Satmaha,s honey (25gm) mixed together, helps to increase immune power of our family members. You can prepare required quantity of 'Panchamrut' required according to number of persons having meal, as per proportions' of ingredients given above.
4) Satmaha's honey can be consumed as spread with bread or chapati or using as a sweetener in various types of liquid preparations like milkshake, ice-cream, sharbat etc. & in other recipes.
5) 10 ml extract of Tulsa leaves plus 10 ml extract of Ginger plus 5 gm of Tamarind powder mixed with 20 gm honey consumed two to three times a day is useful to recover from cough & cold, fever, indigestion, gastric troubles, skin infections, allergies, lack of immune power, etc.
6) Regular consumption of Murabba (conserve preparation) of various food items prepared in honey are useful to health.
   1) Murabba of dried dates in honey : Increases hemoglobin count.
   2) Murabba of Almond crushes in honey : Increases memory & intelligence.
   3) Murabba of Garlic or Garlic Powder in honey : Controls cholesterol level.
   4) Murabba of Ginger or Ginger Powder in honey : The best appetizer useful in acidity, gastric troubles & in-digestion.

Scientific knowledge about other bee products.

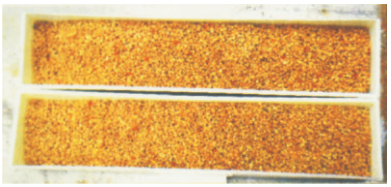
1) **Bees wax :** It is a construction material of bee-hive, secreted by worker honey-bees from gland on back side of body. Bess-wax has 200 times weight holding capacity than its wt. We get more quantity of bees-wax from wild **Apis - dorsata** honey-bee colonies. Bees-wax is used in cosmetics, ammunition, colors industries, molding industries, pharmaceutical industries etc.
2) **Pollen :** Pollen is a main food of honey-bee and is a reproductory organ of plant, containing various types of nutrients like amino acids, proteins, enzymes, co-enzymes, vitamins & minerals. **(Refer Chart-**

III) The worker-bees in honey-bee colony eat pollen and secret Royal-jelly from gland present on front side of their body, to feed the queen and larvae. **Royal-Jelly is also called as milk of honey-bee.** The worker-bees control on generation of population of required gender of honey-bees, season wise, having control on quantity of eggs to be laid by the queen and gender of bees to be generated from larvae (i.e. queen-bee or drone-bees or worker-bees), by the way of feeding different quantity of dosages of Royal-jelly to the queen and larvae developed from eggs. Hence Pollen is a very important food required in reproduction cycle of honey-bee colony.

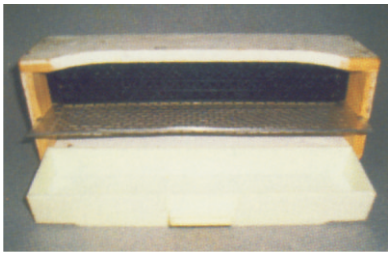
Honey-bee collects pollen from flowers holding it in back legs. In search of food, honey-bee lands on thousands of flowers of male & female plants of unique species, holding thousands of pollen particles in legs, at that time cross-pollination or fertilization of plants takes place. Honey-bee helps farmer & nature by increasing the pollination and thereby the yield of the crops.

Pollen is collected from Honey-bees with the help of pollen trapper fitted on gate of wooden boxes of honey-bee colony in Apiary. We also get pollen separated from honey at the time of filtration & by honey-hunting procedure of **Apis dorsata** bees.

Honey-bee entering with pollen in bee box



Pollen Dryer



Pollen Trapper

Pollen of Mustered Flowers

Pollen is a rich food containing valuable nutrients (see chart- VI) useful to our health by the way of healing, rejuvenating body cells & increasing the immune power of our body to fight against various types of diseases, to maintain hormone levels, recovery of digestive upsets, prostate diseases, sour throats, acne, fatigue, sexual problems, allergies, aging etc. Hence pollen can be used as nutrient food to be consumed daily to have anti-aging effects on our body health and to increase immune power of our body to fight against allergies & diseases like diabetes, cancer, HIV, prostate gland deficiencies etc. & diseases caused due to hormonal im-balances like in-fertility in male or female, sexual impotency, fatigue, thyroid etc.

3) **Royal-jelly :** In peak season of inflorescence, Royal jelly is collected from honey-bee. It is available in fridge-dried milky white color powder form. It contains nutrients in form of various types of carbohydrates, amino-acids & proteins. It enhances activity of our body. Royal-jelly is used with pollen and honey as anti-aging nutrient food for healthy, vigorous, strength-full, lean & beautiful health of our body.
4) **Propolis :** It is a gum secreted by bees to fill the gaps of hive-frame in winter and summer seasons. It is soluble in alcohol. It is useful as best germs killing agent used in teeth decay, diarrhea, and dysentery etc.
5) **Bee-venom :** It is used in treatment of arthritis etc. It is not available with us.

Uses of Pollen, Royal-jelly & Propolis

1) **Spread of Pollen with Honey by ratio 50gm:75Gm:** Two table spoon of the spread consumed directly or mixing with milk two to three times a day helps to recover or protect from various health problems to have healthy long life.
2) **Use of Royal-jelly** powder 500mg/Dose with Spread of Pollen & Honey fortify effects of it. Royal-jelly is very costly. So use it, if the cost is affordable to you.
3) To discard the wrinkles of skin on face or body, mix 5% w/w Royal-jelly powder in cosmetic skin cream or lotion you use daily. The face massage with combination of Honey & Royal-jelly in proportion of 100gm:5Gm gives best results for beauty of skin.

The Apis-mellifera Bee working on inflorescence of Mustered

Chart I
Nutrients in Genuine Honey

Containts		Classification
Body Sugars i.e. Carbohydrates	75%	Fructose (Levulose) 38% Glucose (Dextrose) 37% (Digested Sugars by Bees)
Sucrose	5%	Nector of Plants
Proteins and Amino Acids	1%	Linenin, Asperoshki Acid, Glutamic Acid, Asparagine, Leucine, Fenelcin, Valine, Isoleucine etc.
Minerals	0.5%	Potasium, Calcium, Manganese, Iron, Copper, Magnesium, Phosphorus, Sulphur, Chlorine, Nickel, Silver, Gold in minor quantity
Acids	0.2%	Acetic Acid, Uretic, Cretic, Formic, Glutamic, Malic, Lactic, Susenic, Tartaric Acid etc.
Enzymes	Small Qty.	Invertase, Tamilase or Hystase, Glucose Oxide, Cetalase Acid, Phosphate etc.
Vitamins	Small Qty.	B1- Thiamine, B2-Riboflavin or Niacin or Nicotinic acid, B-3,B-5, B-6, Feridoxal, B-8 Pathothenic Acid, Vit C - Ascorbic Acid
Substances Useful for Antibodies Generation, Anti Bacterial Substances Substances Useful for Growth of Body	Small Qty.	Plant Metabolites such as Phenolics, Flavonoids, Terpenes, Active Enzymes & Pollens.
Moisture	20%	Water

Chart - II

General Information about Satmaha's Uni-Floral Honey.

Source Flora of Uni -floral Honey	Collection Region	Period of Season	Color	Taste	Special Appearance	Medicinal Properties
Jambhul Honey	Sahyadri Vally,	Feb. Mar	Brown	Slightly Bitter	Specific Smell Organic	Best Supplementary Food For Diabetic Patients
Hirda - Gela Honey	Bhimashankar Vally	Jan. Feb.	Brown	Specific Tarty	Specific Smell Organic	Useful in Joint - Pains & Constipation
Eucalyptus Honey	Agriculture Regions of India	Nov.Dec. Feb. Mar.	Light Brown	Specific Delicious	Specific Thick Excellent	Useful in Cough & Could
Mustard Honey	North India, Rajasthan, M.P.	Dec. To. Feb	Light. Specific	Specific Delicious	Specific Thick Excellent	Best Supplementary Food For Heart Patients
Sunflower Honey	Agricultural Regions of India	Aug.Sep. Feb.Mar. Apr.	Golden	Specific Delicious	Specific Thick Excellent	Best Nutrient Food
Drumstick Honey	Maharashtra, Bihar	Feb.Mar	Light Specific	Specific Delicious	Specific Thick, Excellent	Best Source Of Vitamin E
Litchi Honey	Himalayan Valley & Basins of River Ganga	April	Light Specific	Specific Del icious	Excess Moisture than other Honey	Delicious Nutrient Food
Karanj Honey	Maharashtra, Bihar	April	Brown Specific	Specific, Slightly Bitter	Specific Thick Excellent	Best as Antiseptic & Antibiotic in Healing of Wounds, Fever etc.
Om - Rainda Honey	Maharashtra - Koyna Valley	Jan. Feb. Mar.	Brown Specific	Delicious Specific	Excellent, Organic	Delicious Nutrient Food.
Karvi a Honey	Maharashtra Koyna Valley	Oct.Nov	Dark	Delicious Specific	Appear like jam or jelly, collected once in seven years	Delicious Source of Hemoglobin.

Instead of major types of Uni-floral honey shown in chart, other types we get are as follows.

Whitee Honey, Dudhi Honey, Sag Honey, Acacia Honey	:	Maharashtra
Terda Honey, Burambi, Arjun Honey.	:	Maharashtra
Sesame Honey, Berseem Honey, Khair Honey.	:	North India
Tour Honey & Cotton Honey.	:	Punjab, Maharashtra
Niger Honey, Corianders Honey.	:	M.P., Bihar
Rubber Honey, Shikekai Honey, Ritha Honey.	:	South India. Kerala, Karnataka, Andhrapradesh.

There are other types of Uni-Floral honey we get from different agricultural &forest regions of India will be informed time to time on our web. or at retail sales outlets.

In Jammu we get honey of acacia only. No other types of honey available in Kashmir. Because of cold region honey production is very less in Kashmir.

We Pack Multi-Floral honey by mixing 2-3 types of Uni-Floral honey.

It is not possible to supply honey having unique color, taste & aroma whole the year in Multi-floral form. Only the companies' sale synthetic honey, having crystal clear golden color can supply unique colored honey the whole year.

Chart - III
A - Analysis of Bee-Pollen Content

Vitamins	**Minerals**
1) Provitamin A	1) Calcium
2) B1 Thiamine	2) Phosphorus
3) B2 Riboflavin	3) Potassium
4) B3 Niacin	4) Sulphur
5) B6 Group	5) Sodium
6) Panthothenic acid	6) Chlorine
7) Biotin	7) Magnesium
8) B12 (cyanobalamin)	8) Iron
9) Flocic acid	9) Manganese
10) Choline	10) Copper
11) Inositol	11) Iodine
12) Vitamine C	12) Zinc
13) Vitamin D	13) Silicon
14) Vitamin E	14) Molybdenum
15) Vitamin K	15) Boron
16) Rutin	16) Titanium

Others

1) Nucleic acids
2) Flavonoids
3) Phenolic acids
4) Tarpenes
5) Nucleosides
6) Auxins
7) Fructose
8) Glucose
9) Brassins
10) Gibberellins
11) Kinins
12) Vernine
13) Guanine
14) Xanthine
15) Hypoxalthine
16) Nuclein
17) Amines
18) Lecithin
19) Xanthophylls
20) Crocetin
21) Zeaxanthin
22) Lycopene
23) Hexodecanal
24) Alpha-amino-butyric-acid
25) Monoglycerides
26) Diglycerides
27) Triglycerides
28) Pentosans

Enzymes, Co-enzymes

1) Amylase
2) Diastase
3) Saccharase
4) Pectase
5) Phosphatase
6) Catalase
7) Disphorase
8) Cozymes
9) Cytochrome systems
10) Lactic dehydrogenase
11) Succinic dehydrogenase
12) 24 oxidoreductases
13) 21 transferases
14) 33 hydrolases
15) 11 lyases
16) 5 isomerases
17) Pepsin
18) Trypsin

Proteins/ amino acids

1) Isoleucine
2) Leucine
3) Lysine
4) Methionine
5) Phenylaline
6) Threonine
7) Tryptophan
8) Valine
9) Histidine
10) Arginine
11) Cystine
12) Tyrosine
13) Alanine
14) Aspartic acid
15) Glutamic acid
16) Proline
17) Serine
18) Hydroxyproline

B - Royal-jelly Contents

1) Carbohydrates
2) Cobalt
3) Gold
4) Silver
5) Hormones
6) Nucleic Acids

C - Propolis Contents

1) Aluminium
2) Cilicon
3) Strontium

Chart - IV

Quality control parameters of Honey as per PFA or Agmark.

No.	Characteristic	Parameter
1	Specific gravity at 27^{0}C, Min.	1.37
2	Moisture, percent by mass, Max	20 to 25
3	Total reducing sugar. percent by mass, Max.	65 to 72
4	Sucrose, percent by mass, Max.	5.0
5	Fructose-glucose ratio, Min. *	1.00
6	Ash, percent by mass, Max	0.5
7	Acidity (expressed as formic acid), percent by mass, Max	0.2
8	Fiehe's test *	Negative
9	Hydroxymethyl furfural (HMF), mg/kg, Max. *	80 mg
10	Total count of pollens and plant elements/g of honey, Max	50000
11	Optical density, at 660 nm, percent, Max	0.3

* *If Fiehe's test is positive, carry out the determination of hydroxmethly furfural (HMF) content. If it is more than 80 mg per kg, then fructose glucose ratio should be more than 1.00.*

1) **Specific gravity at 27 ^{0}C:** This test is performed to determine the weight of honey of volume of 1 cm^3.

2) **Moisture, percent by mass, Max:** The moisture or water content in honey above 22% allows yeast cells to ferment honey. Due to fermentation the color & odor of honey changes. Hence it is necessary to maintain moisture content in honey below 22%. Fermentation of honey does not affect nutrient value of honey.

3) **Total reducing sugar. percent by mass, Max.:** Sugars which have reducing property due to its characteristic aldehyde or keto group is called as reducing sugar. Mainly glucose and fructose are present in the honey as reducing sugars.

4) **Sucrose, percent by mass, Max.:** The nectar is collected by bees in natural sucrose form. The sucrose is acted upon by the digestive enzymes of bees (like amylase etc.) and convert sucrose into the reducing sugars like glucose and fructose. This test is performed to detect any un-reacted sucrose present in honey. Manual addition or adulteration by sugar syrup or gaggary juice in honey increases sucrose %.Hence this test is also useful to detect adulteration in honey.

5) **Fructose-glucose ratio, Min.:** The ratio of digested sugars in honey is determined by "Fructose % by mass divided by Glucose% by mass = 1Min." It means concentration of glucose should not be more than concentration of Fructose in honey.

6) **Ash, percent by mass, Max.:** This test is performed to detect heavy metals if present in honey.

7) **Acidity (expressed as formic acid), percent by mass, Max.:** Reasons for increase in acidity of honey are as follows:

1)Storage temperature and age of honey.

2)Contamination of honey with air, oil, glycerol, corrosive metals etc.

3)Processing temperature.

4)Fermentation of honey.

5)Adulteration with substances like sugar syrup, antibiotics, sorbitol, de-crystallizing chemicals etc.

8) **Fiehe's test & Hydroxymethyl furfural (HMF), mg/kg.:** HMF is a non toxic substance. The acidity of honey increases with its age. As the acidity increases, the reducing sugars are converted to HMFs. Fiehe's test is performed to detect presence of HMF in Honey. Fresh honey has zero HMF content. So ideally, Fiehe's test should be negative. If it is positive then, HMF count in mg/kg is detected. . The conclusion of purity of honey relates with result of HMF count and F/G Ratio. So there is separate note given as "***If HMF in honey is more than 80 mg per kg, then fructose glucose ratio should be more than 1.00.*** If F/G Ratio is below .95 and HMF count is more than 80mg/kg then it is considered as adulterated or un-ripe honey. The sucrose content in adulterated honey is more than 5%.

9) **Total count of pollens and plant elements/g of honey, Max:** Honey bee collect pollens as food from flowers, so it is found in honey. By identification of pollen we can get judgment about source flora of honey. Presence of pollen in honey proves its originality.

10) **Optical density, at 660 nm, percent, Max:** This test is performed to detect natural color shade of honey or manual addition of color in honey.

11) In spite of Lab. Parameters regarding honey given above following lab tests are performed for more details.

1) **Liquid chromatography of honey:** To detect presence of harmful contents like glycerol, antibiotics, pesticides, sorbitol, de-crystallizing chemical reagents etc.

2) **Isotope-C13 TA-SCIRA TEST:** This test is used to find the source of the honey i.e natural or artificial based on carbon test.

3) The enzymes and HMF present in honey are detected by **Spectrophotometry.**

Considering the huge cost required for these tests, not affordable to small entrepreneurs, these tests are not made compulsory in India.

The honey bees avoid to built hives at air and water polluted dirty places. It is necessary for their survival. They avoid work on fields like flora of crops spread with insecticides or pesticides, flora of harmful plants, sewage water etc. The purity and quality of honey depends upon ethical honesty, and intelligent work with proper handling of human chain working as bee-keeper, honey hunter, supplier, processor, packer and trader regarding honey.

In this advanced world honey is being 50-95% adulterated with 'Honey Grade Synthetic Invert Sugar' using advanced technology for cost management. This Synthetic Honey is being sold in huge amount in the Indian and International Market.

The popular Baba, Bapu, Branded companies and Malls earn crores of Rupees by taking disadvantage of the customers lack of knowledge about honey. They decoy the customers by giving free schemes and low price products.

Honey is collected from various floras by Honeybees. The medicinally important active metabolites in natural honey cannot be synthesized artificially. The FSSAI and German Laboratory parameters for natural honey are concerned only with sugar structure in honey. They are not related with the plant metabolites present in honey.
Generally honey bees collect nectar from C3 type plant flora. The Synthetic Invert sugar is manufactured by fermentation technology for adulteration in honey. In past period it was manufactured from C4 type plants like Sugarcane, Maize etc. But afterwards the detection of C4 plant source in adulterated honey was invented. Eventually it has become difficult for these money makers to adulterate the honey. Now a day's these money-makers are manufacturing the synthetic invert sugar from C3 type plant sources like Rice and Sugar-beet for adulteration in honey!

Hence the adulteration of honey with 'Honey Grade Synthetic Invert Sugar' has become convenient for cheaters. For these reasons the adulterators cannot be caught legally.

The collection cost of natural honey varies according to the quantity of honey collected and cost of efforts taken for it. Accordingly the cost of various Sat-Maha's Uni-Floral honey vary.

The consumers should enjoy all types of Sat-Maha's Uni-Floral Honey one after another for healthy life.

Our products are available in market ,with the well known retail sales outlets, which give consumer oriented services... based on policies following ethics of humanity, and not for making exorbitant profit by any way

Visit our sales office at Pune or Head Office at Alandi Devachi to know about properties of Satmaha's Uni-floral, Multi-floral Honey & Other Products, having actual sublingual taste experience of them. The Knowledge you adopt is useful for selection of Honey & other Products available in Market.

If It Is not possible for you to visit our H.O. at Alandi Devachi or Sales Office at Pune, you can get an experience of genuine honey at home: Purchas Combi-pack containing, 25 gm in each pouch, of various types of Satmaha's Uni-floral & Mllti-floral Honey & other Products, by postage or courier, depositing or transferring amount in our bank account. Please enquire on our contact no, for amount to be deposited. Send details of the amount deposited in our bank account by mail or postage or by phone with your detailed address & contact no.

Service by courier or postage is available for purchase of 1 Kg pack only.

Postage & Courier charges extra.

Insist on Satmaha's Honey & other product to retail Sales outlet, giving consumer oriented service to you in your area.

Help us to support Bee-keepers....

Consume 'Satmaha's Genuine Honey & other products only.

Get cent percent return of cost you pay...

Getting enriched health.

The cost you pay.....

Is not only for a product you buy,

but also is for beekeepers

intelligent hard work and honesty.

The Bee-Products are
available in pure form with us.

For more information about sales &
supply of our products
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Taluka. Khed- Rajgurunagar,
District. Pune. State Maharashtra. India.
Pin: 412105.
Mobile No. : +91-9225676481,
Mobile: Mr. Patil: +91-9822379474.
Mrs. Patil: +91-9881151375.
E-mail ID: snprichproducts@gmail.com.

For more information & online Purchase
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Sales Office at Pune

Satmaha Naturorich Products
1042, Sadashiv Peth, Raksha Deep Building,
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Gai Ali, Opp. Rahalkar Ram Mandir or Jain Mandir,
Near Nagnath Par, Pune. 411030. (Maharashtra)
Landline Phone No. : +91-20- 24474761,
Mobile : +91-9225676482

Time: 10 A.M. to 6 P.M. Sunday Closed.

Our Bank : Bank of India, Chakan Branch.
Dist. Pune - 410501.
Satmaha Naturorich Products
C.C. Account No. : 060130110000007.
ISFC CODE : BKID0000601

Sat-puda + Maha-baleshwar = 'Sat-maha'

A Bee-keeping & Honey Processing Unit
Under KVIC's Gramodyog Rojgar Yojana

Bees....

- *Are essential for life.*
- *Maintain bio-diversity.*
- *Pollinate crops to increase yield.*
- *Provide people with nutrient food like....*

  honey, pollen, royal-jelly & propolis.
- *Helps rural people...*

  to generate employment & fight poverty.

About Honey Collection Activity In Short.

Genuine Honey is collected by Honey- hunting & Bee-keeping procedure from various species of honey-bees (Indian species ***Apis-dorsata***, ***Apis-florea***, ***Apis-cerana indica*** & Italian species ***Apis-mellifera***). India is a tropical country having Himalalayan valley on northen side, Satpuda valley in middle & Sahyadri valley on the west. Due to unique geographical set-up there are three seasons (winter, rainy & summer) in India. India has different types of soil and atmospheric conditions regionwise. Due to its geographical setup and has fertile lands along the basins of the rivers like Ganga, Narmada, Tapi, Godavari, Bhima, Krishna, kaveri etc and tributaries.So the main profession of the people is agriculture. Availability of various types of inflorescence of crop plants, plants in vicinity, and plants in forest region, makes possible to get various types of honey in **Uni-floral** & **Multi-floral** form. According to particular region and season the cost of honey production varies. The factors affecting the cost of honey production are:- 1) Number of colonies of honey-bees (species wise) present in nature & the quantity of honey present in the hive. 2) Attact of predaters & various diseases on bees. 3) Geographical & atmospheric set up of the region. 4) Available quantity of pollen and nectar in the flowers of that region. 5) Changes in weather conditions. 6) Cost of human efforts taken for honey collection.

Honey collection activity by Honey-hunting procedure.

Honey Collected from ***Apis-dorsata*** & ***Apis-florea*** species of honey bee is by honey-hunting procedure. ***Apis-dorsata*** honey-bees are found all over India.

The hive of ***Apis-dorsata*** is large in size & and has weight bearing capacity up to 50 kg. The colonies of ***Apis-dorsata*** are found on apical branches of trees, rocky gaps on top of hills, Buildings, water storage tanks etc. the working range of ***Apis-dorsata*** bee is up to 10 km. radius from their hive.

The ***Apis-florea*** species of honey-bees is found in the agricultural regions of India. The hive of ***Apis-florea*** is small in shape and has weight bearing capacity up to 3 kg. They build hives on branches of shrubs. The working range of ***Apis-florea*** bees is up to 2 km radius from their hive.

The ***Apis-dorsata*** & the ***Apis-florea*** bees are wild in nature and build their hives exposed to sunlight. Hence bee-keeping is not possible with them. Generally honey-hunting procedure is used to extract honey from these hives. We get 5 kg to 40 kg honey from ***Apis-dorsata*** and 50 gm to 250gm honey from ***Apis-florea*** bees at a time.

The honey collected by honey-hunting procedure is called squeezed honey. This honey contains more quantity of pollen so it looks turbid.

Honey collection activity by Bee-keeping procedure.

The honey collected from ***Apis-cerana Indica*** & ***Apis-mellifera*** species of honey-bees is by bee-keeping procedure.

In nature ***Apis-cerana*** bees build their colonies in dark places like holes of trees, gaps in rocks etc. A hive of Cerana Indica has 7 compartments adjascent to each other, having weight bearing capacity up to 15 kg. The working range of ***Apis-cerana*** bees is up to 3 km radius from their hives. As ***Apis-cerana*** bees build their hive in dark, their commercial bee-keeping is possible into the wooden boxes. An Apiary of ***Apis-cerana*** bees has 10 to 100 colonies. Each colony consists of a two storied wooden box having 7 adjascent compartments each. The long distance migrations are not suitable to these bees. So bee-keeping of ***Apis-cerana*** is confined to a specific region. The colonies can be migrated to short distance up to 50 km.

Apis ***Apis-mellifera*** is an Italian honey-bee, whose commercial migratory bee-keeping activity is done throughout the world. The Apiary of ***Apis-mellifera*** bees have 50 to 200 colonies. Each colony consists of a double storied wooden box, having 10 adjucent compartments each. The working range of ***Apis-mellifera*** is upto 5 km. radius from the hive. The colonies of ***Apis-mellifera*** can be migrated through long distances i.e. 100 to 2000 km. in the flowering seasons of various regions throughout the year for honey production.

The honey from ***Apis-cerana*** Indica & ***Apis-mellifera*** is extracted with the help of centrifuge equipment, without damaging the bee-hive. From a colony of ***Apis-cerana*** Indica bees We get 3kg to 15 kg honey production annually, while from a colony of ***Apis-mellifera*** we get 20kg to 100kg of honey production annually. The extracted honey contains fewer amounts of pollens. So it looks clearer than squeezed honey.

The rural people of India collect honey by honey-hunting & bee-keeping procedure. We 'Satmaha Naturorich Products' support the honey collectors by solving their economic & technical problems in honey collection. We purchase honey from them giving maximum price, thereby fulfilling their efforts taken for honey collection.

The Co- operative activity with honey collectors in various regions of India, makes us possible to supply Genuine honey In **Uni-floral** & **Multi-floral** form to the consumers.

Commonly honey is known as bee-product but there are other useful & valuable bee products obtained from honey-bees. The other products are bees-wax, Pollen, Royal-jelly, Propolis & Bee-venom.

Sealed Brood of Mellifera

Queen of Mellifera

Larvae of Mellifera

Pollen & Honey Stored in Hexagonal Cells of Hive

An Apiary of *Apis-mellifera* Honey Bees

Mr. Patil investigating Bee colony in Apiary of ***Apis-mellifera***

Equipments used in Bee-keeping

Centrifuge Honey Extractor

Honey Extraction from Hive Frames

An Apiary in forest region

Launching of an Apiary in agriculture flora of Sunflower

Bee-Keepers' working in an Apairy.

Preservation of Royal-jelly.

Royal-jely extracted from Apiary

A colony of Apis-Melifera.
Due to over population, the colony is on swarming (division) position.

Predators of Honey Bee

Bombus Sp.

Sealed queen cells for mass rearing

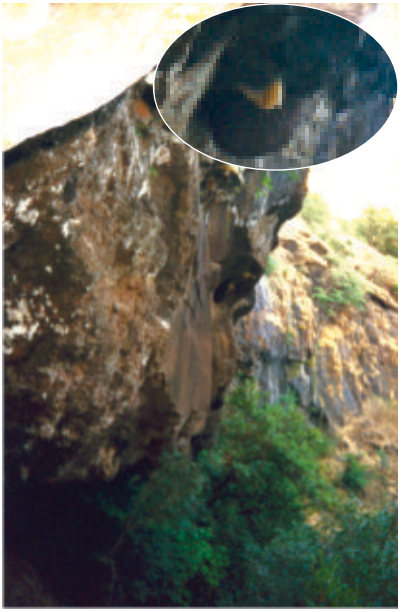
Apis-cerana-indica
Bee working on Flower

Drone of ***Apis-cerana-indica***

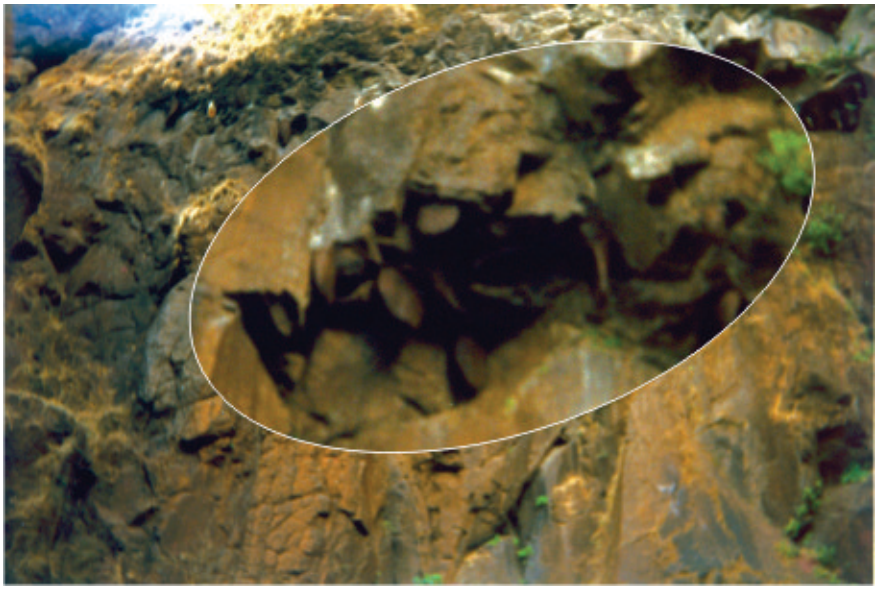
Hundreds of Apis-dorsata colonies on branches of tree.

A Honey-Hunter harvesting honey, pollen & bees wax
from the hive of Apis-dorsata

Honey-Hunter with Bee-hive



Apis-dorsata colonies on top of hills



Apis-dorsata colonies on top of hills

Workers, preparing equipments for Honey-hunting

Honey-hunters, camp in jungle

A group of Honey-hunters, with harvested stock of Honey & Bees-wax

A huge Apis-dorsata colony containing about 70-80 kg of honey.

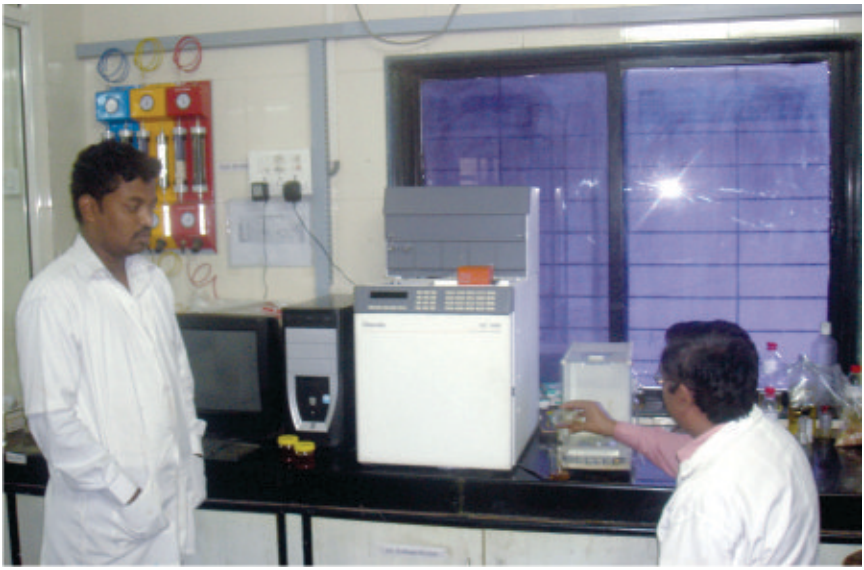
A close-up of Apis-dorsata bee-hive

The colonies of Apis-florea

Apis-indica collecting nectar & pollen from flowers

Sat-puda + Maha-baleshwar = 'Sat-maha'

A Bee-keeping & Honey Processing Unit Under KVIC's Gramodyog Rojgar Yojana



Akansha Analytical & Research Lab - Pune
Sat-maha's honey analyzed according to 'AGMARK' standards

- ***Buyers having Affinity towards Nature……..***
  - ***Purchase products on base of exact knowledge of basic needs……***
  - ***Is the base of healthy, social, economical growth of human & other beings in Nature!***

- ***Buyers having Affinity to Stars, Advertisements & Free Schemes…..***
  - ***Are Victims of Decoy of Money Makers!***
  - ***Spend and invest money in un-wanted, increasing harmful needs…..***
  - ***Tends restless selfish lifestyle, to earn more & more…….***
  - ***Cause pollutions & loss of natural wealth.***
  - ***Get Increase in physical & psychological health problems……..***
  - ***Resist on social & ethical justice for rights of all human & other beings in Nature !***

M.R.P. : ₹ 50/-
(Inclusive of all taxes)

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