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## **Natural Honey Q&A**

### **What is honey?**

Honey is a food source for bees. Worker bees gather flower nectar during the warm summer months and carry it back to the bee hive where they deposit it in the cell walls. Bees sustain themselves with honey during the cold winter months when food is scarce.

Humans have used honey as both food and as a natural sweetener for centuries, with beekeeping dating back to the early Egyptians. Ancient cultures referred to the period after marriage as the "honeymoon" because newlyweds were encouraged to eat honey and drink mead, a honey-based alcoholic beverage, as a way to increase their fertility.

### **What's the process by which bees make honey?**

Honey is made by an alchemical process that begins at the flower, where the bee takes his nectar. As the bee feasts, his body breaks down the nectar through an enzymatic process and then carries the nectar back to the hive. The bee deposits this new substance into the cell walls of the hive, where the fluttering of many bee wings ventilates and dries it into a hardened form. This enzymatic process is the bee's way of preserving the nectar for later consumption. Unprocessed flower nectar is high in moisture and yeast, both of which promote fermentation. Natural honey contains a higher concentration of sugar and low moisture content, which prevents its decomposition.

### **What's the difference between raw honey and the honey that comes in the little bear-shaped squeeze bottle?**

The honey that you'll typically find on your supermarket shelf is usually a hybrid blend of several types of honey which is then filtered, heated and processed. The honey is exposed to high temperatures during processing in order to remove crystals, bits of pollen and other solids, and to reduce the viscosity. In heating the honey in this way, chemical properties are altered, enzymatic activity is decreased and natural health benefits are eliminated. The honey that you pick up at your local grocery store has little to no healing properties.

Raw honey refers to honey as it exists in the beehive or as obtained by extraction, settling or straining without adding heat. Beekeepers use a centrifugal spinner to separate the honey from the comb, then strain and immediately package for human consumption.

### **What are the health benefits of raw, natural honey?**

Honey has been used as a mild antiseptic to treat burns and wounds by cultures around the world for over 80 years. It has a mild laxative effect due to a high concentration of natural sugars which stimulate the bowel.

Recent studies point to honey's antimicrobial effects which makes it an ideal wound and burn dressing. This is due to its high sugar concentration, primarily acidic makeup and low moisture content. Honey also contains organic acids and hydrogen peroxide, a natural antiseptic. By way of its composition, raw honey is naturally self-preserving and therefore resistant to bacteria, mold and fungi.

Known antioxidant compounds in honey: chrysin, pinobanksin, vitamin C, catalase and pinocembrin. Antioxidants prevent cells and tissues from breaking down or "oxidizing" in our bodies. This prolongs cell life and wards off cancer and other disease.

Recent studies indicate that honey promotes bifidobacteria growth in the human intestinal tract. Bifidobacteria is a "good bacteria" found in the intestinal flora that aids in food digestion and assists in the absorption of vital nutrients.

In addition to wiping out bacteria-borne illnesses, broad spectrum antibiotics administered by the healthcare industry are known to destroy the good bacteria of the stomach lining and result in malabsorption of essential nutrients. Raw, natural honey may have restorative effects on the digestive system due to its high acid, low pH makeup as being compatible with the body's natural state.

### **What does antimicrobial mean?**

Antimicrobial agents inhibit the growth of bacteria, yeast and molds. When the pH of the human body becomes too alkaline as a result of poor health and improper intake of vital nutrients, bacteria, yeast and mold flourish in our living tissue. Evidence suggests that because of its powerful antioxidant properties and acidic makeup, raw, natural honey has a powerful curative effect on human cells.

### **What does honey do for the skin?**

The high acid content of honey makes it ideal as a replacement for alpha-hydroxy facial masks. Honey is a natural humectant, which means it naturally attracts water. Applied to the skin of the face, honey acts as a natural hydrant which is all-natural and non-irritating. With its natural antioxidant properties, honey is being researched in use as a skin treatment to repair cells damaged by the sun's harmful rays. It's also useful in the treatment of minor acne flairs-ups, thanks to its acidic makeup and microbial properties.

### **How can I tell if honey has been processed by looking at it?**

Processed honey is clear, free of crystals and particles, and easily pourable. Raw, natural honey is unprocessed and not heated. It is crystalline in appearance and may contain a few harmless particles that weren't eliminated during the straining process. Honey that remains unheated and in its pure state retains the vitamins, nutrients and curative powers that make it effective in antiseptic applications.

### **Is it true that infants should not be given raw honey and if so, why?**

Honey should not be given to infants under one year of age due to their susceptibility to Infant Botulism. The undeveloped digestive system of an infant does not contain intestinal microflora and is thus unable to defend itself. The bacteria which causes botulism, Clostridium Botulinum, is present in trace amounts in our environment and can be found in dust, mold, soil, air and agricultural products that are not properly processed. Clostridium Botulinum spores are sometimes found in raw honey. While children and adults are able to consume honey containing the botulism spore without side effects or harm, an infant will contract a form of paralysis caused by the bacteria. Never feed your infant raw honey.

### **Does honey have to be refrigerated? Will it spoil if kept a certain amount of time?**

Raw, natural honey will not spoil provided the moisture content is kept under 18%. It should be kept at room temperature.

### **Is honey made of sugar, or something else?**

The typical chemical components of honey are as follows: fructose: 38%, glucose 31%, sucrose 1%, water 17%, other sugars including maltose and melezitose 9%, ash .17%

### **What's a honeycomb?**

Honeycomb is wall of hexagonal wax cells where the bees deposit and store honey for later consumption in their nests. The bees make honeycomb to use as both a food storage container and a nest to contain their larvae. Some beekeepers collect and sell the entire honeycomb as opposed to extracting the honey from

the comb prior to packaging.

### **What is royal jelly?**

Royal jelly is secreted by young worker bees and used as food for their young. Bee larvae are deposited into the hexagonal cell walls of the beehive where the worker bees feed them royal jelly until they develop to desired rank. If a larva is selected for queen rank, she will be fed only royal jelly and no other form of nourishment until her ovaries have fully formed and she can lay more eggs for the hive.

### **What are the health properties of royal jelly?**

Royal jelly exhibits antibacterial and antibiotic properties. It contains minerals, enzymes, hormones, 18 amino acids, and Vitamins A, C, D and E. It also contains all of the B complex vitamins and is the only natural source of pure acetylcholine. Unlike honey, royal jelly spoils easily. It must be kept refrigerated and combined with regular honey for preservation.

### **What is propolis?**

Propolis is a reddish-brown resin that bees collect from flower buds and seal the irregular spaces inside the bee hive. It's used to strengthen the internal structure of the hive walls, reduce vibration and seal alternate entrances of the hive that could be permeated by invaders. Propolis is made up of primarily resins and vegetable balsams (50%), waxes (30%), essential oils (10%), and pollen (5%).

### **What are the health properties of propolis?**

Propolis is known for its powerful antifungal and antibacterial properties and touted by health experts as an immune system stimulant.

### **What is beeswax?**

Beeswax is a tough, waxy substance that honeybees produce and secrete in thin scales to be used in the formation of honeycomb, the cellular wall of the beehive. Bees consume copious amounts of honey and then huddle together in clusters to generate heat which in turn stimulates the production of beeswax. About ten pounds of honey must be consumed in order for a cluster of bees to produce one pound of beeswax. The beeswax deposited in the honeycomb is purer and lighter in color than the beeswax deposited in the broodcomb of the hive.

Chemical makeup of beeswax: hydrocarbons 14%, monoesters 35%, diesters 14%, triesters 3%, hydroxy monoesters 4%, Hydroxy polyesters 8%, acid esters 1%, acid polyesters 2%, free acids 12%, free alcohols 1%, unidentified 6%

### **What are some common uses of beeswax?**

Beeswax is used to make fine candles, shoe polish, soap, skincare products, modelling waxes and other products. It is safe to ingest and used as a coating for pills as well as a solidifier for many candy products. Beeswax is known for its high melting point range, of 62 - 64°C (144 - 147°F). It does not boil, but continues to heat until it bursts into flame at around 120°C (250°F).