Honey Nutrition

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Bee Products

- **Honey**

  Honey is preserved flower nectar.
  Honey is harvested by straining honeycomb to remove bees wax, pollen, and debris.

- **Honeycomb**

  Honeycomb is honey that is contained in a beeswax cell.
  Just like it is stored in a bee hive.

- **Bee Pollen**

  Bee pollen is a food that has been collected by the bees.
  Bees transport pollen in bags on their rear legs.
  It is commercially collected by screening the bee hive entrance.
  When a bee carrying honey arrives back at the hive, the pollen is scrapped off by the screen.
  This pollen is botanically pure.

- **Bee Bread**

  Pollen is the only source of protein for bees.
  Pollen will naturally decay with time.
  Bees preserve pollen by making bee bread.
  Bee bread is crucial for the development of bees from an egg, to a larva, to a cocoon, and finally to an adult, since this growth requires massive amounts of protein.

- **Royal Jelly**

  Pollen is protein for bees.
  Bees are not able to digest pure pollen.
  Royal jelly is predigested pollen that is the protein food for bees.

- **Propalis**

  Propalis is a resinous mixture that honey bees collect from tree buds, sap flows, or other botanical sources.
  Bees create it and use it as a sealant or glue.
  Propalis is highly antibiotic and antifungal.

Honey Composition

Honey is plant nectar that has been preserved by bees (since nectar will naturally ferment).
Nectar is composed mainly of sucrose (table sugar) and water.

Bees add enzymes that create additional chemical compounds, inverting the sucrose into fructose (fruit sugar) and glucose (a simple sugar that is directly used by cells), and then evaporate the water so that the resulting product will resist spoiling.
Hence, honey is a source of carbohydrates, containing:

- 80% natural sugar - mostly fructose and glucose.

  Due to the high level of fructose, honey is sweeter than table sugar.

- 18% water.

  The less water content the honey has, the better the quality of honey.
  Higher water content means that the honey is more likely to spoil.
  This problem is more evident in the tropics and in humid climates.

- 2% minerals, vitamins, and pollen.

  The vitamins present in honey are: B6, thiamin, niacin, riboflavin, pantothenic acid and some amino acids.
  Amino acids are the building blocks of proteins.
  There are 27 essential amino acids that humans are unable to synthesize.
  The minerals found in honey include: calcium, copper, iron, magnesium, manganese, phosphorus, potassium, sodium and zinc.
  So in essence, honey is a natural vitamin pill.

Honey is fat free and cholesterol free.
Heat destroys many of the benefits of honey, so in general, it is not recommended.
Human infant's digestive systems are not fully developed.
Honey is thus not recommended for infants due to the enzymes and microbial properties.

Honey Enzymes

One of the characteristics that set natural honey apart from table sugar and all other sweetening agents is the presence of active enzymes.

The main enzymes in honey are invertase (saccharose) and diastase (amylase) which are introduced to honey by bees.
Invertase is an enzyme that catalyzes the hydrolysis (breakdown) of sucrose (table sugar).
The resulting mixture of fructose (fruit sugar) and glucose (a simple sugar readily usable by cells) is an inverted sugar syrup.
A diastase is a type of enzyme that catalyses the breakdown of starch into maltose (malt sugar).
These enzymes break down the complex sugar (sucrose) into more easily digestible sugars.
This is one of the reasons why honey is a healthier food than table sugar.

Another enzyme that goes into honey during nectar processing is glucose oxidase which produces the antibacterial, antimicrobial - hydrogen peroxide.

As these enzymes are sensitive to heat, visible and UV light, it is always recommended that honey be stored away from the sun and that extreme heating be avoided to preserve the natural goodness of honey.

Honey is Hygroscopic

Honey has a hygroscopic nature, which means when exposed to air, it naturally absorbs moisture.
In treating open wounds, honey is useful as it can help prevent scarring by keeping the skin moist, encourage the growth of new tissues, and allow easy removal of any dressing by preventing the dressing from becoming stuck to the skin.
Honey's hygroscopic properties also make it an ideal ingredient in cosmetics as it helps keep skin hydrated and fresh and prevents drying.
Thus, honey is known as a natural "humectant" as it attracts and retains moisture.
When used in skin and hair treatments, honey traps and seals in moisture leaving skin soft and supple, and hair glossy and healthy.

Honey is Antibacterial

The effective antimicrobial agent in honey prohibits the growth of certain bacteria.
It contains an enzyme that produces hydrogen peroxide which is believed to be the main reason for the antimicrobial activity of honey.
As such, honey is a useful treatment for wounds and scalds.
Cuts, abrasions and scalds can be covered in honey to prevent bacteria from entering the wound and promote healing.
Honey can help treat minor acne by attacking the bacteria that cause the outbreaks while moisturizing the skin to aid rejuvenation.
Honey was commonly used during the Civil War to treat wounds.

Honey is an Antioxidant

Honey contains natural antioxidant properties that can destroy biologically destructive chemical agents which have been linked to many diseases such as cancer.
Studies also found that dark-color honeys such as Buckwheat seem to possess more antioxidants than light-color varieties.
Not only can honey's antioxidants help eliminate free radicals in the body, they are also part of the nutrient supply for growth of new tissue.
These precious honey properties help protect the skin under the sun and help the skin to rejuvenate and stay young-looking.
As such, there have been an increasing number of manufacturers of honey skincare products such as sunscreens and facial cleansing products for treating damaged or dry skin.

Allergies

If you suffer from springtime allergies, consider adding a little local honey to your prevention regimen.

The theory is that, as with allergy shots, daily exposure to a small amount of an allergen can desensitize the body.
In this case, that allergen culprit is pollen --the very same ingredient bees use to make their honey.
To try it out, eat one teaspoon daily of raw, unfiltered honey made within 20 miles of your home.

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