

# BRIEF CONSULTATION

## Honey's reputation is deceptively sweet

*Are there any advantages to substituting honey for table sugar as a sweetener?*

—MD  
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■ Claims that honey is nutritively superior to sugar are deceptive. Honey does not contain vitamins and minerals in anything more than trace amounts, and it has no significant nutritive value other than calories (64 per tablespoon; 304 per hectogram).

The honey-making process involves enzymes secreted by the bee (including invertase, amylase, glucose oxidase, and catalase) and physical manipulation of the nectar in the hive. The combination of carbohydrate inversion of the nectar with evaporation (caused by rapid wing movement of bees) results in the typical composition shown in the Box.

The flower from which the nectar originates influences honey's color and flavor. About 25 floral types of honey are commercially important; however, the bulk of commercial honey originates from the nectar of leguminous plants (such as clover, alfalfa, or vetch).

Natural contaminants of raw honey include sugar-tolerant yeasts, dormant bacteria, and mold spores. Honey with less than 17.1% water will not ferment within a year, regardless of yeast content. However, fermentation may take place in honey with 17.1% to 18% water if the yeast content is over 1,000/g. When the water content increases, honey granulates and is more likely to ferment. The water content of honey must not exceed 18.6% for a classification of US Fancy (Grade A) or Choice (Grade B).

Honey is processed by heating it to no more than

### Typical composition of honey

Component	%
Water	17.2
Fructose	38.2
Glucose	31.3
Sucrose	1.3
Other disaccharides	7.3
Higher sugars	1.5
Organic acids	0.6
Proteins	0.3
Ash	0.2

60 °C for three minutes or flash-pasteurizing it at 93 °C to destroy yeasts. A diatomaceous filter removes pollen, impurities, and crystal residues. Honey keeps best when refrigerated or frozen.

It is critically important not to feed even pasteurized honey to infants or to use it in infant formula. Honey can contain spores of *Clostridium botulinum*, which can germinate in the body, resulting in botulism. Honey has also been implicated in several infant apnea deaths (*Morbidity and Mortality Weekly Report* 27:29, 1978).

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