

## Definition of Honey and Honey Products

Approved by the National Honey Board June 15, 1996

Updated September 27, 2003

### PART A: HONEY

#### I. Definition

Honey is the substance made when the nectar and sweet deposits from plants are gathered, modified and stored in the honeycomb by honey bees.

The definition of honey stipulates a pure product that does not allow for the addition of any other substance. This includes, but is not limited to, water or other sweeteners.

#### II. Typical Composition

As a natural product, the composition of honey is highly variable.

	Average	Range	Standard Deviation
Fructose/Glucose Ratio	1.23	0.76 - 1.86	0.126
Fructose, %	38.38	30.91 - 44.26	1.77
Glucose, %	30.31	22.89 - 40.75	3.04
Minerals (Ash), %	0.169	0.020 - 1.028	0.15
Moisture, %	17.2	13.4 - 22.9	1.46
Reducing Sugars, %	76.75	61.39 - 83.72	2.76
Sucrose, %	1.31	0.25 - 7.57	0.87
pH	3.91	3.42 - 6.10	---
Total Acidity, meq/kg.	29.12	8.68 - 59.49	10.33
True Protein, mg/100g.	168.6	57.7 - 567	70.9

## References

F:G ratio, Fructose, Glucose, Sucrose: White, J. W. Jr.  
Detection of Honey Adulteration by Carbohydrate Analysis, Jour. Assoc. Off.  
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Reducing Sugars and pH: Calculated from data in White, J. W., Jr. et al.  
Composition of American Honeys. Tech. Bull. 1261, Agricultural Research  
Service, U. S. Department of Agriculture, Washington, D.C. 1962.

Protein: White, J. W. Jr., and Rudyj, O. N.  
The Protein Content of Honey. Jour. Apicul. Res., 17 (4) 234-238. 1978.  
Moisture, Total Acidity, and Minerals: White, J. W., Jr. , et al.  
Composition of American Honeys. Tech. Bull. 1261, Agricultural Research  
Service, U. S. Department of Agriculture, Washington DC 1962

## III. Types of Honey

**Comb honey:** Honey presented in its original comb or portions thereof.

**Extracted honey:** Honey removed from the comb and presented in several forms, as defined in the United States Department of Agriculture Standards for Grades: (1) liquid, (2) crystallized or granulated, or (3) partially crystallized. This is commonly known, and referred throughout the document, as "honey."

**IV. Designation of Honey Sources** - the source of honey determines many of the attributes of honey, e.g., aroma, flavor, color and composition.

**Floral:** Indicates the primary flowers from which bees gathered nectar to produce the honey.

**Non-Floral:** Indicates primary sources other than flowers such as extra-floral nectaries and honeydew [1].

**Geographic Origin:** The name of an area of production (state, region) may be included, provided the honey has been produced entirely within that area. Blends containing honey of foreign origin must be labeled to indicate their origin(s), in accordance with the Code of Federal Regulations (CFR).

## V. Forms of Honey

**Blended Honey:** A homogeneous mixture of two or more honeys differing in floral source, color, flavor, density or geographic origin.

**Churned Honey:** See whipped honey.

**Cremed Honey:** See whipped honey

**Crystallized Honey:** Honey in which part of the natural glucose content has spontaneously crystallized from solution as the monohydrate. Also called "Granulated Honey."

**Filtered Honey:** Honey processed by filtration to remove extraneous solids and pollen grains.

**Honey Fondant:** See whipped honey.

**Organic Honey:** Honey produced, processed, and packaged in accordance with State and Federal regulations on honey and organic products, and certified by a State Department of Agriculture or an independent organic farming certification organization.

**Raw Honey:** Honey as it exists in the beehive or as obtained by extraction, settling or straining without adding heat.

**Commercially Raw Honey:** Honey as obtained by minimum processing. This product is often labeled as raw honey.

**Notes:** 1) Storage or exposure to either ambient (environmental) or applied (deliberately added) heat influences the character of honey. 2) Enzymatic

activity, antimicrobial properties, microbial quality, color and chemical composition are all influenced by heat and storage. [2] 3) There are an infinite number of time and temperature combinations that will affect the raw state of honey. 4) The definition of "minimum" processing can be set by purchasing standards.

**Spun© Honey:** See whipped honey.

**Strained Honey:** Honey which has been passed through a mesh material to remove particulate material (pieces of wax, propolis, other defects) without removing pollen.

**Whipped Honey:** Honey processed, by controlled crystallization, to a smooth spreadable consistency. Also called "Cremed Honey," "Spun© Honey," "Whipped Honey," "Churned Honey," "Candied Honey" or "Honey Fondant."

## **VI. Grading**

Current U.S. Standards for Grades of Extracted Honey and Comb Honey (CFR Title 7, Part 52, sections 1391-1405) are herein incorporated by reference. The grading of extracted honey includes factors such as color, clarity, absence of defects, moisture, flavor and aroma.

## **VII. Methods of Analysis**

The official methods of analysis for honey of the Association of Official Analytical Chemists International are herein incorporated by reference (AOAC 1995, 16th edition, section 44.4).

## **PART B: HONEY PRODUCTS**

Honey products do not meet the compositional criteria for honey; but are products consisting in whole or in part of honey.

Imitation or artificial honey is a mixture of sweeteners, colored and flavored to resemble honey. This product does not meet the definition of honey or honey products. As such, it is inappropriate to include the word honey on the label of such a product.

This is a partial and constantly growing list intended to standardize the vocabulary used in the honey trade.

**Deionized Honey:** A honey product where honey has been processed to remove selected ions.

**Deproteinized Honey:** A honey product from which protein has been removed, from the honey, by appropriate processing.

**Dried Honey:** Honey which has been dehydrated and in which edible drying aids and processing adjuncts may be included to facilitate processing and improve product stability. Dried honey comes in various particle sizes.

**Honey Extract:** Any product formed by removing selected components from honey. The nature of the component (flavor, color, etc.) determines the type of extract. See natural honey flavor.

**Honey Spread:** A variety of edible, extremely viscous honey products made from honey or creamed honey. Honey spread is sometimes blended with other ingredients (such as: fruits, nuts, flavors, spices or margarine but excluding refined sweeteners).

**Natural Honey Flavor:** A substance obtained (often by extraction) only from honey that contains the flavor constituents of honey.

**Ultrafiltered Sweetener Derived from Honey:** Honey from which all materials not passing a specified submicron membrane pore size have been removed. Materials removed include most proteins, enzymes and polypeptides.

Evaporation required in the processing may also remove some volatile flavor and aroma constituents.

[1] Honeydew is a sweet deposit, excreted by sap sucking insects such as aphids or coccids (and perhaps secreted by fungi), found on the surfaces of vegetation.

[2] White, J. W., Jr. 1992. Quality Evaluation of Honey: Role of HMF and Diastase Assays. *Am. Bee Journal*. 132 (11 & 12): 737-743, 792-794. Molan, P. C. 1992. The Antibacterial Activity of Honey. *Bee World* 73 (1 & 2): 5-29, 59-77.