
A Taste Of Honey

The Bear Facts about Cooking with Honey

Tastes of the World Chef Culinary Conference
Simple Cooking, Healthy Eating, UMASS

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Agenda

- History & Honey 101
 - Culinary & Nutrition Information
 - Beekeeping Basics
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History & Honey 101

Honey History

- It is believed that honey history dated as far back as 10 to 20 million years ago and the practice of beekeeping to produce honey, apiculture, dates back to at least 700 BC.



What is Honey?

- Honey is a naturally inverted sugar.
- Honey is a sweet syrup produced by bees from flower nectar.

The flowers, not the bees, determine the honey's flavor and color.



Culinary & Nutrition Information

Honey Varieties



- Honey is classified by the U.S. Department of Agriculture into seven color categories: water white, extra white, white, extra light amber, light amber, amber and dark amber.
 - There are over 300 floral sources for honey in the United States, including clover, alfalfa, buckwheat and orange blossom. Honey's color and flavor vary with its floral source.
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Most of us know honey as a sweet, golden liquid.
However, honey can be found in a variety of forms

Comb Honey - is honey in its original form; that is, honey inside of the honeycomb. The beeswax comb is edible!

Cut Comb Honey - is liquid honey that has added chunks of the honey comb in the jar.

Liquid Honey - Free of visible crystals, liquid honey is extracted from the honey comb by centrifugal force, gravity or straining. It's especially convenient for cooking and baking. Most of the honey produced in the United States is sold in the liquid form.

Naturally Crystallized Honey - Naturally crystallized honey is honey in which part of the glucose content has spontaneously crystallized. It is safe to eat.

Whipped (or Cremed) Honey - While all honey will crystallize in time, whipped honey (also known as cremed honey) is brought to market in a crystallized state. The crystallization is controlled so that, at room temperature, the honey can be spread like butter or jelly.

Terroir

Comes from the word terre "land".

It was originally a French term in wine, coffee and tea used to denote the special characteristics that the geography, geology and climate of a certain place bestowed upon particular varieties.



Culinary = Flavor



- The carbohydrates found in honey have the ability to improve the intensity of desirable flavors and reduce the intensity of others. Honey enhances sweetness intensity, decreases sourness, decreases the bitterness intensity and increases the acceptability of savory products by modifying saltiness perception.
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Functional Characteristics of Honey

Characteristics	Functions	Applications								
		Bakery	Beverages	Cereals	Confections	Dairy	Meats	Sauces	Snacks	Spreads
Antimicrobial Properties	Delays Spoilage	x				x	x	x	x	x
Carbohydrate Composition	Flavor Enhancement		x				x	x	x	x
Color	Coloring Agent	x				x	x			
Composition	Decrease Burn Perception						x	x	x	
Crystallization	Texture				x					x
Flavor	Flavoring Agent	x	x	x	x	x	x	x	x	x
Humectancy	Adds Moisture	x						x		x
Hygroscopic	Retains Moisture		x					x		
Lower Freezing Point	Freezing Point Depression		x			x				
Low Glycemic Index	Reduces Rebound Hypoglycemia		x						x	
Miscibility	Water Soluble	x				x		x		x
Maillard Reaction Precursors	Antioxidation						x			
Nutrition	Healthy Appeal	x	x	x	x	x			x	x
pH Balance	Inhibits Bacterial Growth		x			x				
Preservation	Slows Staling	x								
Pro-biotic	Enhances Bifidobacteria					x				
Proteins	Clarification		x							
Pumpable	Extrudable	x			x			x		x
Reducing Sugars	Enhances Browning	x		x			x	x	x	
Spreadability	Improves Reduced-fat Products	x		x	x		x			x
Viscosity	Binding Agent		x	x			x	x	x	x
Water Activity	Extends Shelf-life	x		x				x		

Nutrition Info



- Natural source of carbohydrates
- 64 calories per tablespoon ¹
- Honey is sweeter than sugar. On the average, honey is 1 to 1.5 times sweeter (on a dry weight basis) than sugar.
- Average PH is 3.9 (avg range 3.4 – 6.1)
- Will reduce enzymatic browning in fruits & vegetables, and prevent lipid oxidation in meats.
- Honey has a relatively low Glycemic Index compared to other sweeteners

¹ USDA Nutrient Database

Antioxidants

- Honey contains a variety of phytochemicals (as well as other substances such as organic acids, vitamins, and enzymes) that may serve as sources of dietary antioxidants.



Beekeeping Basics



Why do bees make honey?

- Honeybees make honey from the nectar of flowers, it is their source of carbohydrates for adults' as well as young bees' diet.
- Pollen is moved by bees initiating pollination and is their source of protein.



During any given season many different plants produce nectar and pollen. Honeybees will begin foraging as soon as the temperature is above 50 degrees F and the flowers are blooming.

Female worker bees leave the hive and begin foraging for nectar and pollen at 3 weeks old.





What do Honeybees do in the winter?

Honeybees form a tight cluster inside the hive around their queen maintaining a temperature of 90 degrees throughout winter.

On a warm day of 55 degrees, they may leave for a cleansing flight or to crawl to the top of a frame and uncap some honey to eat.

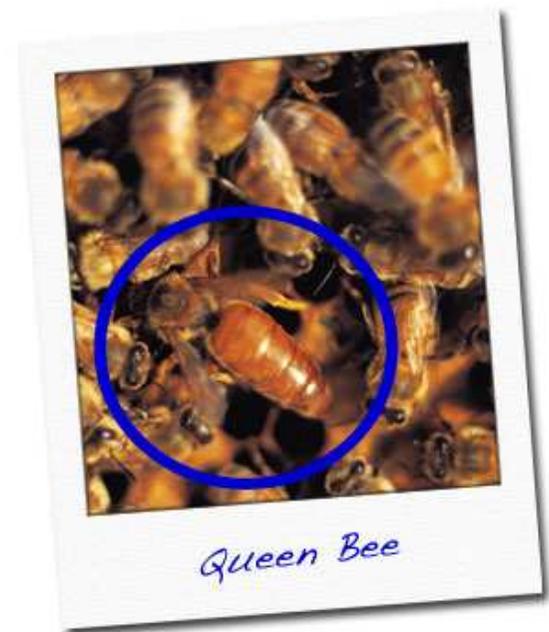
Honeybees will fly up to 3-4 miles to find, pollen, nectar, water (and resin to make propolis).

In the Northeast we harvest honey in September (which happens to be National Honey Month), in southern regions honey often can be harvested in spring and again in fall (depending upon the nectar flow and Mother Nature).



Honeybees live approximately 6 weeks. A colony can live for many years with the help of a beekeeper who's main job is to keep their colony pest and disease free, insure there is sufficient honey stored up for the winter and make sure there is a healthy productive queen.

A colony can not survive very long without a queen.



Colony Collapse Disorder

- >25% of the honey bee population has disappeared since 1990 and there is little indication to the root cause
- Cross-pollination helps at least 30% of the world's crops and 90% of our wild plants to thrive
- Without bees to spread seeds many plants & food crops would die off





Sources

- Natural Honey Board, 390 Iashley Street, Longmont, Colorado, 80501-6045
 - www.nhb.org
 - www.honeylocator.com
 - www.honey.com
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