

DUTCH GOLD HONEY



Quality, a family tradition since 1946

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About Dutch Gold Honey



Since its inception in 1946, Dutch Gold Honey has been focused on fulfilling the motto of its founder, Ralph Gamber, "We only pack the best." What began as a beekeeping hobby for Ralph and Luella Gamber by purchasing three hives of bees has grown to become the largest family-owned honey company in the United States.

Located in Lancaster, PA, the "Heart of Pennsylvania Dutch Country," Dutch Gold Honey was named for the early settlers in the region, who were "Deutch" (German) and the beautiful golden color.

What makes Dutch Gold Honey so special? Varieties!! Just as people enjoy pairing various cheeses and wines, the same holds true for honey. Dutch Gold offers many floral varieties of pure and all-natural honey. The flavor of the honey is determined by the nectar of the blossom or flower that the honey bee visited. The honey created from the nectar of the orange blossom looks and tastes totally different than the honey from a buckwheat blossom. Dutch Gold does not add anything to the honey to impart these unique flavor profiles. It is all up to Mother Nature and the honey bee.

As the company grew and the focus moved to the packaging of honey versus the production aspect, the company is still very supportive of the U.S. Beekeeping industry on the national, state and local level. Here are links to the beekeeping organizations we support:

American Beekeeping Federation www.abfnet.org

American Honey Producers Association www.americanhoneyproducers.org

Pennsylvania State Beekeepers Association www.pastatebeekeepers.org

Lancaster County Beekeepers Society lancasterbeekeepers.org

The Original Honey Bear



Did you know the idea for the very first squeezable honey bear was "born" in 1957 at the dinner table of Ralph and Luella Gamber, founders of Dutch Gold Honey? After sharing the evening meal with Woodrow and Rita Miller, fellow beekeepers from California, the conversation turned to the honey business. Before long, the four were brainstorming ideas for novel packaging ideas and they "hit paydirt"!

The original plastic bears were first produced by a company called Admiral Plastics in California. The bears were not exactly akin to the current models. Plastic molding technology was in its earlier stages and it was not uncommon for the bears to leak from the seams at their ears, or out of their noses. The honey bears' eyes and nose were hand painted on each container and sometimes red lips were applied (much to the chagrin of Ralph).

Dutch Gold celebrated the honeybear's 50th birthday in 2007 with a party, complete with cake and ice cream. A contest was held simultaneously to give the honey bear a name and the name chosen was, Nugget!

McLure's Honey and Maple Syrup of New England

In February of 1997, Dutch Gold Honey, a family-owned business, purchased McLure's Honey and Maple Products from the McLure family. Although Dutch Gold Honey oversees the business administration of McLure's, they continue to operate in Littleton, NH marketing products under the McLure's and Moorland Apiaries labels.

Please visit our website at www.dutchgoldhoney.com for more history.

WHY DO BEES MAKE HONEY?

Honeybees collect nectar and store it as honey in their hives. Nectar and honey provide the energy for the bees' flight muscles and for heating the hive during the winter period. Honeybees also collect pollen which supplies protein for bee brood to grow.



Honey bees live in colonies that are often maintained, fed, and transported by beekeepers. Centuries of selective breeding by humans have created honey bees that produce far more honey than the colony needs. Beekeepers harvest the honey. Beekeepers provide a place for the colony to live and to store honey in. The modern beehive is made up of a series of square or rectangular boxes without tops or bottoms placed one on top of another. Inside the boxes, frames are hung in parallel, in which bees build up the wax honeycomb in which they both raise brood and store honey. Modern hives enable beekeepers to transport bees, moving from field to field as the crop needs pollinating and allowing the beekeeper to charge for the pollination services they provide.

A colony generally contains one breeding female, or “queen”; a few thousand males, or “drones”; and a large population of sterile female “worker” bees. The population of a healthy hive in mid-summer can average between 40,000 and 80,000 bees. The workers cooperate to find food and use a pattern of “dancing” to communicate with each other.

WHAT CAN YOU DO TO HELP THE HONEY BEES?

Without honey bees, more than 80% of the variety of the food we eat could disappear: the majority of fruits and vegetables would vanish from our tables. In the USA honey bees are considered critical pollinators of many fruits, nuts and vegetables.

Get to know the honey bee. Unlike other stinging insects, honey bees are manageable, and are non-aggressive. Many times, stinging events are from hornets, yellow jackets, and wasps.

Whenever possible, choose non-damaging and non-chemical treatments in and around the home. Most garden and backyard pests can be dealt with without harsh chemicals. Plant a bee friendly garden with native and nectar producing flowers. Understand that backyard plants such as dandelions and clover are pollen and nectar sources for a wide variety of beneficial insects, including the honey bee.

WHY WE NEED BEES

<http://www.nrdc.org/wildlife/animals/files/bees.pdf>

What is Honey?



Honey is made by bees in one of the world's most efficient facilities, the beehive. The 60,000 or so bees in a beehive may collectively travel as much as 55,000 miles and visit more than two million flowers to gather enough nectar to make just a pound of honey!

Honey is primarily composed of fructose, glucose and water. It also contains other sugars as well as trace enzymes, minerals, vitamins and amino acids. Honey is "manufactured" in one of the world's most efficient factories, the beehive.

The color and flavor of honey differ depending on the bees' nectar source (the blossoms). In fact, there are more than 300 unique kinds of honey in the United States, originating from such diverse floral sources as Clover, Buckwheat, Alfalfa, Blueberry, and Orange Blossoms. In general, lighter colored honeys are mild in flavor; while darker honeys are usually more robust in flavor.

In addition to being a great natural sweetener, honey has a multitude of benefits that many people don't know about. Have you ever had an unrelenting sore throat? Honey has been proven to be a natural throat soother! Are you an athlete looking for a natural energy boost before the big game? Honey's unique blend of natural sweeteners gives it the ability to provide quick energy in any circumstance.

Pollination - The Honey Bees' Second Shift

In addition to gathering nectar to produce honey, honey bees perform a vital second function - pollination. About one-third of the human diet is derived from insect-pollinated plants, and honey bees are responsible for 80 percent of this pollination.

Pollination is the fertilization of a flowering plant. It occurs when pollen is transferred from the anthers of a flower to the ovules of that or another flower. Honey bees are responsible for pollinating a variety of fruits, vegetables, legumes and more.

What is a monofloral honey?

A monofloral honey is honey that is made from nectar from one floral source. For example, when the orange trees in Florida are blossoming, a beekeeper will move his hives into the orange groves. The bees will collect orange blossom nectar and turn it into honey. Before the beekeeper takes his hive to another floral source, he will extract the orange blossom honey to preserve its integrity.

How do the bees know to only collect nectar from one type of blossom?

They don't, but using the example from above, if the orange blossoms are the predominant nectar source within their flying range, then most of the nectar collected will be orange blossom nectar. The bees may visit other blossoms that are in the area, but again, the orange blossoms are the most prevalent.

How many monofloral honeys are there in the US?

There are over 300 monofloral honeys in the US. Most of them are very localized. For example, mesquite honey is very popular in the Southwest.

Is there really a difference between honeys?

Each honey does have a unique flavor profile, and the sweetness intensity varies. Some differences are very pronounced, while others are very subtle.

FLORAL SOURCES AND USES



Alfalfa – Wyoming & Montana

Alfalfa blooms throughout the summer because it is usually cut several times for hay. It is very important as a honey plant in most of the western states. It is a perennial plant with a smooth, erect stem growing 2-3 feet tall. It bears grayish-green trifoliate leaves, with egg-shaped leaflets. Its violet-purple flowers grow from June to August, producing spirally-coiled seed pods. Alfalfa honey ranges from white to extra light amber and has a mild flavor and aroma similar to beeswax.

Best Uses:

This light, delicate honey makes a great table honey and is especially good for sauces and dressings.



Blueberry – Maine & Michigan

Over 20 species of low shrubs with bell-shaped white or pinkish flowers occur in the eastern states and Canada. All are much visited by bees. Blueberries are self-sterile and must be cross-pollinated by bees. Dutch Gold's blueberry honey is produced mostly in the New England region. Blueberry honey typically is an extra light amber honey with a flowery/lemony aroma. It has a fruity flavor profile, but

not a strong blueberry flavor and has medium sweetness intensity.

Best Uses:

This mild, fruity honey makes a great table honey and is excellent in dressings and used as a meat glaze, hot cereal, pancakes, spread on muffins or nut breads. Blueberries taste components pair well with the following ingredients: ginger, lemon, melons, nutmeg, sour cream, walnuts and yogurt.



Buckwheat – New York, North Dakota & South Dakota

The delicate white flowers of buckwheat bloom quite early in the day and the bees work it intensely in the mornings. Buckwheat honey is a pungent honey with molasses and malty flavors and a lingering aftertaste. This honey has been found to have high antioxidant levels.

Best Uses:

This full, robust honey is best used for bakery items and is a must for honey cake, a Jewish holiday tradition.



Clover – North Dakota & South Dakota & Canada

The yellow flowered species of sweet clover bloom 10 days to 2 weeks before the white species and their honeys are usually inseparably mixed. Other varieties include Red Clover, White Dutch Clover, and White Sweet Clover. Clover honey is typically white to extra light amber and is the most common honey in the U.S., making it the honey flavor that most people can identify with.

Best Uses:

This light honey is an excellent table honey, which is perfect as a topping for ice cream, yogurt and cereals. It is also good in dressings and marinades



Eucalyptus – Australia

Eucalyptus trees, which are evergreen, form about three-quarters of the tree flora of Australia. With over 600 species, eucalyptus has flowers that grow individually or in clusters year-round, making Australia the leading producer of eucalyptus honey. Dutch Gold's Australian eucalyptus honey has a mildly sweet, herbal flavor with a fruity aftertaste. Its flavor profile is rich and distinct. This honey was once described as a "party in your mouth."

Best Uses:

This medium honey adds excitement to sauces, meat glazes and bakery items.



Golden – USA & Canada & Argentina

Dutch Gold's Golden honey is a medium honey created from a blend of sweet clover honey and wild flower honey.

Best Uses:

This flavorful honey is an excellent all-purpose honey, which is perfect as a table honey and in cooking and baking.



Orange Blossom— Florida & California

Orange trees play a major role in the honey industries of southern Florida, Texas, Arizona and California. Orange trees bloom in March and April. Orange Blossom honey is white to extra light amber in color. It is a medium, aromatic honey with a flavor profile that hints of its citrus origins.

Best Uses:

This light golden honey adds new dimension to fruit salads, dressing and meat glazes and is excellent in hot tea. The floral orange component lends itself to being paired with chocolate, cinnamon, custards, fennel, mint, salad greens, seafood, winter greens and vanilla.



Organic – Brazil

Deep in the most remote regions of Brazil, where the foliage and fauna are untainted by modern chemicals – such as pesticides and fertilizers – honey bees collect “organic” nectar. Dutch Gold’s Organic Wild Flower honey is a rich, flavorful honey, ranging from extra light amber to light amber.

Best Uses:

Like Wild Flower honey, Organic Wild Flower honey is an all-purpose honey. It is great when eaten straight from the jar, as well as when used in cooking and baking.



Premium – USA & Canada

Dutch Gold’s Premium honey is a light honey created from a blend of sweet clover honey and alfalfa honey. These honeys are produced in the western United States and Canada.

Best Uses:

This mild, delicate honey compliments many flavor profiles. Premium honey is excellent in desserts and beverages.



Wildflower – USA & Argentina

Wildflower honeys are a blend of multiple honey floral varieties. Dutch Gold’s Wild Flower honey is a medium flavored honey created from a blend of multiple honey varieties. Although the floral sources can vary, Dutch Gold guarantees a consistent flavor profile year-round.

Best Uses:

This flavorful honey is a general-purpose honey that will satisfy many needs. A great table honey, it is also ideal for cooking and baking.



Cranberry – New England States

Medium amber in color, cranberry honey is a true reflection of its original floral source and has a delicate cranberry aroma. Smooth, pungent and mildly tart with subtle floral hints, this cranberry honey finishes with a very light fruit flavor.

Best Uses:

Cranberry honey pairs well with dark chocolate in any venue, cranberry sauce, and is also better than sugar in fruit preserves. Its floral notes pair best with apples, cornbreads, pork, poultry, tangerines and walnuts. It accompanies warm chamomile teas with ease.



Raspberry – Oregon

A light and floral honey, with a unique raspberry finish intertwined with the aroma of warm cocoa butter. Light yellow in color and mellow and smooth on the palate.

Best Uses:

Raspberry's honey components lend themselves well to being paired with the following ingredients: champagne, chocolate, peaches, pears, sour cream, sugar and vanilla.

Raspberry honey is also a delightful addition to China Black Congou [English Breakfast Tea] and Earl Grey.



Creamed Honey

Creamed honey is a Clover honey that has been processed and seed honey added. Seed honey is simply honey from a previous batch that has crystallized that was saved to make creamed honey. All honey granulates naturally.

The seed honey has been selected because it has fine crystals to insure a smooth delicious taste and is gradually added to the processed honey, which is still a warm liquid, and slowly blended. After the blending, it is bottled. The honey must be cooled quickly to keep the seed crystals from melting.

The containers of honey are then allowed to rest at a controlled temperature of 57 °F. The seed crystals induce other crystals to grow around them. The honey mixture then begins a controlled granulation lasting about 14 days, at which time those fine crystals will have turned the liquid into a solid. Some creamed honey continues to crystallize and turns the honey hard. If it's too hard, it can be slightly warmed so it becomes spreadable again. You do not need to refrigerate your creamed honey unless it has liquefied and you want to make it solid again.

Clover honey from different regions will crystallize at different rates. The 'waxy film" that can be on the top of the honey is actually air bubbles that rose to the top after bottling and has crystallized.

RAW HONEY

What is raw honey?

Honey that has been extracted from the hive, but not heated or filtered in any way, is considered RAW honey. Raw honey can contain beeswax, royal jelly, pollen, parts of bees, dirt and pieces of wood from the hives. Because of the pollen and royal jelly, some people believe that raw honey carries more health benefits.

Where do we get raw honey?

Raw honey is purchased in 55 gallon drums (650 lbs) from beekeepers in the U.S., Canada, Brazil, Argentina, Vietnam, and Australia.

What does raw honey look like?

Raw honey is typically crystallized in the drums. It crystallizes quickly due to all the foreign matter in the honey. Depending on the amount of dirt and foreign matter, raw honey often looks like dirty lard.

ORGANIC HONEY

What makes honey organic?

At the Bee Yard: Organic honey must come from organic bees. Hives that have existing honey in them are forbidden to become organic. Organic honey must be produced from naturally foraging bee colonies that are located at least 2 miles (straight-line flight) from any source that could cause the honey to contain pesticides or herbicides. Within this 2 mile radius no pesticides or herbicides may be used, and must not have had any chemical application in the previous 3 years. Feeding of bees is prohibited. If feeding is necessary to prevent starvation, the honey produced is not organic.

Hives need to have all of their parts (supers, queen excluders, etc.) numbered to prevent accidental use in non organic hives. All hive parts must be made of wood. Comb foundations must be made from organic beeswax. All the parts of the bee hives in organic production are to be numbered and tracked to prevent any cross contamination with non-organic production areas. Meticulous records are required to track all beehive operations.

Who certifies Dutch Gold Honey to be organic?

All organic honey must be certified by an approved organic certifying agency. The USDA's NOP program (National Organic Program) certifies the agencies. Dutch Gold and McLure's are certified by PCO (Pennsylvania Certified Organic) who inspects our facilities on behalf of the USDA. Dutch Gold only accepts honey from areas that are certified organic by an NOP approved certifier; furthermore the certifier must have physically visited the organic producing area.

How does Dutch Gold maintain the integrity of organic honey?

Once the organic honey has been produced, it must be extracted and packaged in facilities that are also organic certified and stored in a segregated area to prevent co-mingling with non-organic honey in any way.

Organic honey is only processed after all equipment has been completely flushed with hot water and PCO approved chemicals. The system is flushed with fresh water. All of our equipment is completely clean and emptied of all prior honey. All Organic labels must be approved by PCO before they go into production.

Dutch Gold Honey must be able to track 100% of the organic honey; this is inspected yearly by organic inspectors.

What is the floral source of Dutch Gold's Organic Honey?

The floral source is wildflowers.

HONEY COLOR

Why are honeys different colors?

Honey colors vary naturally and depend upon the type of nectar collected to make the honey. Alfalfa nectar produces a light colored honey while buckwheat nectar yields an almost black honey.

Why do honeys taste different?

The nectar from the flowers imparts the flavor profile of the honey. Each nectar source yields a different flavor of honey. The flavors are all natural.

How will I know which honey to buy?

As a general rule of thumb, lighter colored honey has a mild flavor profile, while darker colored honey has a more robust flavor profile.

Why is honey color important?

Some honey is purchased based on color. Lighter honey is more expensive than darker honey. The flavor profile differs from lighter honey to darker honey. A general rule of thumb is:

The lighter the honey, the milder the flavor profile.

The darker the honey, the more robust the flavor profile.



How is honey color measured?

On the Pfund scale using the Hanna C221 Honey Color Analyzer. The Pfund color grader is a device used by the honey industry to measure the color of honey.



What are the different honey colors and Pfund Scale (mm)?

Extra White 0-17

White 17 – 35mm



Extra Light Amber 35 – 50mm

Light Amber 51 – 85mm



Amber 86 – 114mm

Dark Amber – more than 114mm



How is honey moisture measured?

Using a honey refractometer

Why is honey moisture important?

The moisture level in honey will affect its viscosity and its shelf stability. High moisture honey tends to ferment quickly, which causes an undesirable flavor profile.

What is an acceptable amount of moisture in honey?

For honey to be considered USDA Grade A honey, the moisture level can not exceed 18.6%

GRADING

Honey is graded, on a voluntary basis, using USDA standards. These standards are a point system based upon water content, flavor and aroma, clarity and absence of defects.

	Minimum Total Solids (%)	Maximum Water Content (%)
Grade A	81.4	18.6
Grade B	81.4	18.6
Grade C	80.0	20.0

Dutch Gold Honey only sells Grade A honey.

HOW DOES DUTCH GOLD PROCESS HONEY?

Step 1:

Drums of raw honey are placed in tempering rooms for 3 days to gradually re-liquefy the honey

Step 2:

The drums of raw honey are removed from the tempering room and placed on a lift, two drums at a time. Honey is siphoned off the top to avoid spills. Then, the lift is raised to dump the raw honey into a vat.

Step 3:

The raw honey is pumped into a blending tank where the different honey varieties are blended for an even distribution of flavors

Step 4:

Once blended, the honey is **flash heated to 185° F**. The honey is then forced through filtration papers, and virtually removes all foreign matter. The honey is then **flash cooled to 135° F**.

Step 5:

When the honey has been filtered, it is pumped into storage tanks for disbursement into tankers, totes, drums, pails or other retail packaging.

HONEY AND PASTEURIZATION

Pasteurization is the process in which a food, typically a liquid, is quickly heated to a specific temperature for a set period of time and then quickly cooled. The pasteurization of a food is a means to decrease the microbiological activity in the food. It is not a sterilization step. This process is most closely associated with the pasteurization of milk, where there are clear governmental guidelines that define this process.

There are no clear governmental guidelines for honey pasteurization as there are for milk therefore Dutch Gold Honey is not comfortable making any pasteurization claims. Dutch Gold Honey's processing steps do include a flash heating step (to 185 degrees F) for five minutes, after which the product is quickly cooled and then packaged. This step does significantly reduce microbiological activity and retards the rate of honey's natural tendency to crystallize.

WHAT IS THE WHITE FOAM ON TOP OF THE HONEY?

The white appearance on the top of honey is actually the creation of "honey foam" which is a result of the tiny air bubbles in the honey escaping to the top of the honey. This is due to tiny air bubbles entrained in the honey during the processing and packaging of the product. When the packaged honey sets awhile, the air bubbles work their way up to the top of the container creating the foam. There is nothing wrong with the honey or the foam on the top of the honey.

CRYSTALLIZATION or GRANULATION

What is crystallization?

Crystallization or granulation is a natural process that occurs in honey. It does not indicate spoilage. In fact this is nature's way to preserve honey. Honey is a supersaturated sugar solution out of which the glucose tends to crystallize. Honey is produced from various types of flower and blossoms. Some honeys crystallize quickly – others much slower.

What factors influence crystallization?

Many factors influence the crystallization of honey. Some batches of honey never crystallize, while others do so within a few days of extraction. Honey removed from the comb and processed with extractors and pumps is likely to crystallize faster than if it was left in the comb. Most liquid honey crystallizes within a few weeks of extraction. The tendency of honey to crystallize depends primarily on its glucose content and moisture level. The overall composition of honey, which includes sugars other than glucose and more than 180 identified substances such as minerals, acids and proteins, also influences crystallization. Additionally, crystallization can be stimulated by any small particles - - dust, pollen, bits of wax or propolis, air bubbles - - that are present in the honey. These factors are related to the type of honey and are influenced by how the honey is handled and processed. Storage conditions - - temperature, relative humidity and type of container - - may also influence the tendency of honey to crystallize.

My honey has crystallized. Do I need to throw it away?

No. Crystallization can be reversed by heating. The primary means to heat the honey to remove the crystals is to place the honey container in a warm water bath (not boiling – the container will start to deform at about 140 degrees F) for a period of time to return the crystals to liquid. It might take several applications of warm water, depending on the severity of the crystallization and the container. We do not recommend microwaving honey because the plastic container will fail. Honey will crystallize over time again, so the process of warming it up will need to be repeated.

Can I prevent crystallization of my honey?

Some preventative measures may be taken, including: (1) Storing your honey at room temperature will deter crystallization. Crystallization occurs most rapidly at cool temperatures (40° - 57°F) therefore honey should never be stored in the refrigerator. (2) Preventing absorption of atmospheric moisture by tightly closing containers during storage. (3) Do not contaminate the honey with toast crumbs etc. (4) Use more honey! As honey ages, it will start to crystallize.

What is the best temperature for storing honey?

Processed honey should be stored between 64° - 75°F.

What is done by processors to reduce the risk of unwanted crystallization?

During processing, several steps are taken to prolong the liquid state of honey. Heating delays the process of crystallization by dissolving any crystals that may be present in the crude product. Heating also affects yeast cells which considerably reduces the possibility of fermentation. There is little bacteria in honey because of the low moisture content.

Filtered under pressure enhances the clear brilliant color of honey and removes some potential crystallization nuclei such as undissolved glucose crystals, air bubbles, pollen grains or any other large particles. The filling temperature of honey into containers has an impact on crystallization as well. Honey that is flash cooled, crystallizes significantly more slowly.

SHELF LIFE

What is the shelf life of honey?

Honey stored in sealed containers can remain stable for decades and even centuries! However, honey is susceptible to physical and chemical changes during storage; it tends to darken and lose its aroma and flavor. It is suggested the shelf life of honey is two-three years. Properly processed, packaged and stored honey retains its quality for a long time.

“Best by” dates are generally found on Dutch Gold's honey containers. The date, tells you how long the product is likely to remain at its absolute best quality when unopened and stored properly.

Is honey usually stable?

Honey is highly stable against microbial growth because of its low water activity, low moisture content, low pH, and antimicrobial constituents.

HONEY & TRANS FAT

Does honey contain Trans fat?

Honey is a wholesome product produced by bees from the nectar of flowers. Honey is predominantly carbohydrate and does not contain any fat. Because no fat is present, there can be no Trans fat.

Why doesn't Dutch Gold's label list Trans fat on the nutrition information?

Because honey contains 8 or more nutrients with a declared value of zero, honey qualifies for "simplified" nutritional panel format. Since no claim is made about fat, fatty acid or cholesterol content, and the amount of Trans fat is less than .5 grams, declaration of trans fat is not necessary in the "simplified" format. In compliance with the FDA's trans fat labeling rule, currently meets the requirements for the simplified format and is not obligated to make any label changes.

Nutrition Facts	
Serving Size 1 Tbsp (21g)	
Servings Per Container 00	
Amount Per Serving	
Calories 60	
%Daily Value*	
Total Fat 0g	0%
Sodium 0mg	0%
Total Carb. 17g	6%
Sugars 16g	
Protein 0g	0%
*Percent Daily Values (DV) are based on 2,000 calorie diet.	

HEALTHFUL ENZYMES FOUND IN HONEY – ARE THEY AFFECTED BY HEATING?

Some enzymes found in honey are heat stable, therefore heating honey to 185 degrees for short period of time does not remove all the enzymes naturally found in honey. *Processing is not a fully destructive process, as some consumers would have others believe. Heating and filtering honey does not completely eliminate all enzymes, nor does it have a negative effect on honey's mineral and antioxidant levels.* Ropa Science Research - Research Project Funded by National Honey Board - D. Ropa, 2010. For a full report visit <http://www.honey.com/images/downloads/processed-versus-raw-honey.pdf>

COMPARISON OF VITAMIN, MINERAL & ANTIOXIDANT LEVELS IN RAW & PROCESSED HONEY

Ropa Science Research Research Project Funded by the National Honey Board – D. Ropa, 2012

This 2012 study examined the effects of commercial processing on the pollen and nutrient content of honey. Processing reduced the pollen content of the honey, but did not affect the nutrient content. The micronutrient profile of honey is not associated with its pollen content and is not affected by commercial processing.

The 2012 study and abstract with statistical analysis was presented at the Federation of American Societies for Experimental Biology (FASEB) Conference in Boston April 20-24, 2013.

HONEY AND POLLEN

Honey is made by honey bees from the nectar of flowers and plants, not pollen. Pollen is actually an accidental guest in honey, brought back by the bee as a source of food for baby bees (the “brood”), or incidentally introduced into the honey through other means, such as during the extraction process. Pollen in honey is sometimes analyzed to help determine the primary floral source. The amount of pollen in honey is minuscule and not enough to impact the nutrient value of honey. Honey is still honey, even without pollen.

There is quite a bit of confusion regarding the honey industry’s standard practice of straining or filtering honey, which has been in place for more than one-half a century and ultrafiltration, a modern process that, when applied to honey, does not result in a product that can be called, honey. The USDA Grading Standards for extracted, filtered honey do not require honey to contain pollen to be a US Grade A product. *The absence of pollen does not indicate the product is no longer honey.* Many US beekeepers would be quite upset to have their honey called anything but, pure and natural.

DUTCH GOLD HONEY FILTRATION STATEMENT

Dutch Gold Honey, Inc. provides a pure, all-natural US Grade A Honey to consumers, food service operators and food manufacturers. To ensure the quality of the honey and to slow the natural process of crystallization, Dutch Gold strains or filters all raw honey to remove pieces of beeswax and other materials that would be visible to the human eye, such as dust and pollen, from the honey prior to packaging. This filtration process, which has been an industry

standard for over half a century, does not alter the nutritional profile of the honey and allows Dutch Gold Honey to meet the USDA Grading Standards for a Grade A extracted, filtered honey.

The honey industry standard practice of straining and filtration should not be confused with ultrafiltration. When honey is ultrafiltered, water is added to the honey, so that it can be filtered, under pressure to the molecular level. This process removes microscopic material from the honey. After the water is removed, the resulting colorless sweetener is derived from honey, but is not considered “honey” in the United States.

Dutch Gold Honey does not and has never ultrafiltered honey.

For additional information regarding filtration, please visit the National Honey Board’s website at www.honey.com and find “Why is Honey Filtered.” The USDA grading standards for honey are also available at <http://www.ams.usda.gov/AMSv1.0/getfile?dDocName=STELDEV3011895>.

HONEY & ALLERGENS

Honey is a wholesome product created in a natural process by honey bees from the nectar of various flowers. Honey, when not fully processed, may contain residual proteins containing pollen from the plants the bees have visited. Proteins are associated with most true food allergies. Honey itself contains very little protein. The major components of honey are simple sugars.

Because the filtration process used by Dutch Gold Honey removes most of the pollen, allergic reactions stemming from the consumption of honey are very uncommon.

WILL EATING LOCAL HONEY HELP WITH MY ALLERGIES?

There are anecdotal stories of people claiming relief from allergies by eating local honey, but we are not aware of any scientific evidence to support these claims. This subject is somewhat controversial, since some experts claim that the kinds of pollens that are the greatest cause of allergies are smaller windblown pollens that are not typically found in honey. This topic is also covered on the website of the American Academy of Allergy, Asthma & Immunology at <http://www.aaaai.org/ask-the-expert/The-ingestion-of-honey-for-allergy-treatment.aspx>. Other sources of information about pollen allergy include the National Institute of Allergy and Infectious Diseases, and the American College of Allergy, Asthma and Immunology.

IS HONEY GLUTEN FREE?

Honey is a wholesome product made in a natural process by honey bees from the nectar of various flowers. The nectar, from which the honey is produced, does not contain any gluten.

HONEY & COUGH

Time is the most important healer of sore throats caused by viruses, but for relief of the irritating symptoms, try a spoonful of honey to soothe and coat your throat. Take a spoonful straight, as often as you need, to relieve the irritation. In between, keep up your liquids with a steaming cup of tea sweetened with honey. For added Vitamin C, try mixing in orange, grapefruit or lemon juice.

Researchers at Penn State College of Medicine (www.psu.edu) found that honey may offer parents an effective and safe alternative. The study found that a small dose of **buckwheat honey** given before bedtime provided better relief of nighttime cough and sleep difficulty in children than no treatment or dextromethorphan (DM), a cough suppressant found in many over-the-counter cold medications. Honey did a better job reducing the severity, frequency and bothersome nature of nighttime cough from upper respiratory infection than DM or no treatment. Honey also showed a positive effect on the sleep quality of both the coughing child and the child’s parents. DM was not significantly better at alleviating symptoms than having no treatment. These findings are especially notable since an FDA advisory board recently recommended that over-the-counter (OTC) cough and cold medicines not be given to children less than 6 years old because of their lack of effectiveness and potential for side effects.

CONSUMER INFORMATION ON INFANT BOTULISM AND HONEY

Why shouldn't honey be fed to infants?

Honey has been identified as one of the dietary risk factors for infant botulism.

What is infant botulism?

Infant botulism starts when the botulinal spore is swallowed. The microorganism colonizes the bowel, replicates itself and generates a toxic by product. The toxin is absorbed, carried throughout the body and has the usual results of muscular impairment. In most cases air borne spores are simply inhaled by the infant.

What are risk factors for infant botulism?

Factors are both environmental and dietary. C. botulinum spores are present throughout the environment; in soil, dust, air, carpets and even houseplants. The spores are also found in raw agricultural products and finished products that are not sterilized. Honey is one of the food products identified to occasionally contain spores. (Others include fresh fruits, vegetables and meats.)

Why does this only affect infants?

Older children and adults are not normally susceptible to this form of botulism because of the greater numbers of types of bacteria present in their digestive tract. Newborn babies are vulnerable, because they lack a developed intestinal microflora. An infant's intestinal microflora develops during the first few months of life and subsequently provides protection. Adult cases of infant botulism are very rare. Normal healthy children and adults can ingest the spores without harm.

What are the symptoms of infant botulism?

Common first symptoms include poor feeding, less than one bowel movement per day and an altered cry. As the disease progresses, symptoms include constipation, lethargy, weak suck and a weak cry.

Can it be cured?

In most cases, hospitalization is required but most infants experience a complete recovery.

Why don't you treat the honey to remove the spores?

The extreme heating required to remove the spores would caramelize the honey and destroy the color and flavor.

Is Honey safe for pregnant mothers?

The National Honey Board www.honey.com states: Honey is safe to consume during pregnancy and lactation. While infants are susceptible to the infant botulism, adults, including pregnant females, are not. The concern for babies stems from the fact that infants lack the fully developed gastrointestinal tract of older humans. Since the mother is not in danger of developing this condition, the unborn baby is protected.

The Consumer information noted above should be used for general information purposes only. Dutch Gold Honey in no way assumes or guarantees the accuracy or completeness of the information provided and shall not be liable for any loss or injury resulting from the use of these responses beyond our control or from negligence.

DOES THE SWEETNESS OF HONEY VARY?

Although monofloral honeys may have very different flavors and aromas, their sweetening "power" is similar. A few floral types of honey which are rich in fructose may taste somewhat sweeter. After the bees collect the nectar from flowering plants, they also add an enzyme to the nectar which catalyzes the breakdown of the sucrose into glucose and fructose. Fructose is perceived by our taste buds as very sweet, more so than glucose or sucrose.

HONEY VERSATILITY

Honey's being recognized as a versatile ingredient and pantry staple in the kitchen. All-natural honey gives your recipes unbeatable flavor and unmatched functional benefits. From balancing flavors to providing moisture to baked goods, one-ingredient honey performs a slew of tasks, all from one little bottle.

Sweetener: Honey is slightly sweeter than sugar, so less can be used to achieve the same sweetness intensity.

Flavor: Honey not only imparts a unique flavor to any dish, but it also balances and enhances the flavor profiles of other ingredients used in a recipe.

Emulsifier: Honey acts as a binder and thickener for sauces, dressings, marinades and dips.

HONEY'S CULINARY ATTRIBUTES

Natural Appeal	Versatility	Topping / Sweetening	Combinations
100% pure and natural	Dips, spreads and toppings	Tea, coffee, herbal infusions	Dijon and whole grain mustards
Fat-free	Marinades, glazes and sauces	Hot and cold cereal	Barbecue and other ready-to-use sauces
Adds rich texture and color	Salad dressings and condiments	Housemade breads and biscuits	Butter and cream cheese-based spreads
Distinctive sweetness	Beverages - from smoothies to cocktails	Waffles, pancakes and French toast	Prepared dressings
Varietal sources and flavors	Baked goods and desserts	Fresh and aged cheeses, yogurts	Beverage mixes
	Cheese platters and pairings	Fruit salad	
		Ice Cream, gelato, sherbets and sorbets	

HONEY COOKING TIPS

Can I substitute honey for sugar in my recipes?

Yes. Follow these simple guidelines:

1. Substitute honey for up to 1/2 of the sugar.
2. Reduce the amount of liquid in the recipe by 1/4 cup for each cup of honey used in baked goods.
3. Add about 1/2 tsp. baking soda for each cup of honey used in baked goods.
4. Reduce oven temperature by 25°F to prevent over-browning of baked goods.

What are the benefits of using honey instead of sugar?

Honey is 100% natural and adds distinct flavor notes to recipes. Honey also absorbs and retains moisture, thus keeping your items fresh for a longer period of time. Honey is also sweeter than sugar, allowing you to use less of it to gain the same sweetness level.

WEIGHING AND MEASURING HONEY

How much is a cup of honey?

An 8 oz. measuring cup of honey requires 12 oz. (net weight) of honey to fill it. Honey is sold by weight, not by liquid measure. This does cause confusion at times. (We must follow the government guidelines.)

Why doesn't a 16 oz. jar give two cups of honey?

The 16 oz. on the label (or any amount) indicates the weight of the honey, not the liquid measure. This is one pound of honey, not two cups. Honey is much heavier than water.

How much "sugar" does a table spoon of honey contain?

One tablespoon of honey weighs 21 grams, approximately 17 grams of that are carbohydrates.

What is the caloric value of honey?

One tablespoon of honey contains 17 grams of carbohydrates and 60 calories (Kcal).

Is there an easier, less messy way to measure honey?

Yes. Loosely line your measuring cup with saran wrap, leaving plenty of extra over hang. Pour honey into the measuring cup, allowing honey to fill in the cup. Gather the overhanging wrap, twist and then remove from cup. Snip the bottom and squeeze the honey into your mixing bowl. Another idea is to spray the measuring cup with a little cooking spray to keep it from sticking in the cup.

Convert cup of honey into grams, ounces or tablespoons.

Honey equivalent measurements			
<u>Cups</u>	<u>Grams</u>	<u>Ounces</u>	<u>Tablespoons</u>
1/8 cup of honey	42.5 gram	1.5 ounce	2 tbl.sp
1/4 cup of honey	85 gram	3 ounce	4 tbl.sp
1/3 cup of honey	113.3 gram	4 ounce	5.3 tbl.sp
3/8 cup of honey	127.5 gram	4.5 ounce	6 tbl.sp
1/2 cup of honey	170 gram	6 ounce	8 tbl.sp
5/8 cup of honey	212.5 gram	7.5 ounce	10 tbl.sp
2/3 cup of honey	226.7 gram	8 ounce	10.7 tbl.sp
3/4 cup of honey	255 gram	9 ounce	12 tbl.sp
7/8 cup of honey	297.5 gram	10.5 ounce	14 tbl.sp
1 cup of honey	340 gram	12 oz	16 tbl.sp
1 1/3 cup of honey		16 oz	
6 2/3 cups		5 pounds	

HOME BREW



Did you know that the earliest alcoholic beverages were probably made from diluted honey?

Around the world, present-day brewers continue to experiment with unique beer ingredients. Many modern brewers have come to value the use of all-natural ingredients in their beers. One such ingredient is honey! Honey is used in a variety of beers from lagers to ales to porters, due to its ability to enhance flavor.

Mead, or honey wine, is created by fermenting honey with water and is considered the ancestor of all fermented beverages. Mead can be sparkling or still, and dry or sweet.

Hard cider refers to the fermented beverage made from the juice of apples. It can range from sweet to dry depending on the types of apples and yeast used and the length of fermentation.

Homebrew, mead and hard cider have become increasingly popular with nearly one million Americans making their own beer according to the American Homebrewers Association.

Not sure which honey to use? See the chart below to get an idea!

Floral Source	Typical Color	Typical Flavor	Suggested Use in Beers/Meads/Hard Cider
Clover	Light	Mild	Herb Beers, Spice Beers, Ales, Brown Ales, Stouts, Light Beers, Dry Beers, Hard Cider
Alfalfa	Light	Mild	Ales, Lagers, Mead, Hard Cider
Orange Blossom	Light	Mild, Heavy Bodied	Ginger Spiced Beers, Holiday Beers, Light Beers, Melomel, Hard Cider
Wildflower	Medium to Dark	Medium to Strong	Pale Ales, Specialty Beers, Mulled Mead, Hard Cider
Buckwheat	Dark	Strong	Stouts, Porters, Hard Cider

*This information has been provided by the National Honey Board.

BEAUTY AND SKINCARE



Honey has been used in beauty and skin treatment for thousands of years. Cleopatra was well aware of honey's unique abilities to moisturize her skin and keep her hair healthy and shiny. Honey is recommended to treat chapped lips.

Why does honey work? First of all, honey is a humectant which means it attracts and retains moisture. It also has natural antimicrobial properties, plus it acts as an anti-irritant.

You can treat yourself to a spa treatment with easy do-it-yourself beauty recipes that will relax you while hydrating your skin or enhancing your hair. Find recipes at www.dutchgoldhoney.com or www.honey.com

GLOSSARY OF TERMS

Beeswax: waxy material produced by worker bees and used to build combs.

Drones: Male bees, whose main function in the colony is to fertilize the queen. Drones make up a very small percentage of the total colony. In the Autumn drones are expelled from the hive by the female worker bees.

Foundation: Thin sheets of beeswax imprinted with a pattern of honey comb. The beekeeper installs these sheets into wooden frames as "starters" for the bees in making uniform combs.

Frames: The removable wooden structures which are placed in the hive. The bees build their comb within these frames. The removable quality allows the beekeeper to easily inspect the colony.

Hive Bodies: The first one or two wooden boxes of the colony. The hive bodies contain the brood nest of the colony.

Larva: The grub-like, immature form of the bee, after it has developed from the egg and before it has gone into the pupa stage.

Nectar: Sweet fluid produced by flowers is 60% water and 40% solids. This is collected by the bees and converted into honey at 17 -18% moisture content.

Pollen: Very small dust-like grain produced by flowers. These are the male germ cells of the plant.

Propolis: Sticky, brownish gum gathered by bees from trees and buds and used to seal cracks and drafts in the hive. Also called "bee-glue".

Pupa: The immature form of the bee (following the larval stage) while changing into the adult form.

Queen: A completely developed female bee who lays eggs and serves as the central focus of the colony. There is only one queen in a colony of bees. A queen's productive life span is 2-3 years.

Royal Jelly: The milky white secretion of young nurse bees. It is used to feed the queen throughout her life, and is given to worker and drone larvae only during their early larval lives.

Super: The supplementary wooden boxes placed on top of the hive body to expand the size of the colony, and to provide for storage of surplus honey.

Supersedure: When a colony with an old or failing queen rears a daughter to replace her.

Workers: Completely developed female bees that do have developed ovaries and do not normally lay eggs. They gather pollen and nectar and convert the nectar to honey. A worker's life expectancy is only several weeks during the active summer months. However, they can live for many months during the relatively inactive winter period.

HONEY TRIVIA

1. Honey bees communicate with one another where nectar and pollen are located by dancing
2. Larger than the worker bees, the male honey bees (also called drones), have no stinger and do no work at all. All they do is mate
3. Each honey bee colony has a unique odor for members' identification
4. Only worker bees sting, and only if they feel threatened and they die once they sting. Queens have a stinger, but they don't leave the hive to help defend it
5. Honey bees have 170 odorant receptors, compared with only 62 in fruit flies and 79 in mosquitoes. Their exceptional olfactory abilities include kin recognition signals, social communication within the hive, and odor recognition for finding food. Their sense of smell was so precise that it could differentiate hundreds of different floral varieties and tell whether a flower carried pollen or nectar from meters away
6. A worker honey bee is always female
7. Honey bees have 6 legs, 2 compound eyes made up of thousands of tiny lenses (one on each side of the head), 3 simple eyes on the top of the head, 2 pairs of wings, a nectar pouch, and a stomach
8. Utah is known as the beehive state
9. A worker honey bee visits about 50-100 flowers during one collection trip and visits approximately two million flowers to make one pound of honey
10. Each honeycomb cell is a six-sided hexagon
11. The average U.S. per capita consumption of honey is about 1.3 pounds per person per year
12. A honey bee flies about 15 miles per hour
13. It takes about two tablespoons of honey to fuel a honey bee's flight around the world
14. Mead is wine made from honey
15. A worker honey bee makes 1/12 of a teaspoon of honey in her lifetime?
16. It takes 500 bees to produce that one pound jar of honey on your table - 60lbs = 30,000 bees
17. A honey bee colony flies more than 55,000 miles to bring you one pound of honey
18. The queen bee can live up to 5 years and is the only bee that lays eggs. She is the busiest in the summer months, when the hive needs to be at its maximum strength, and lays up to 2500 eggs per day.

DUTCH GOLD HONEY SUPPORTS THE FOLLOWING:



True Source Honey, LLC is an effort by a number of honey companies and importers to call attention to the problem of illegally sourced honey; to encourage action to protect consumers and customers from these practices; and to highlight and support legal, transparent and ethical sourcing. The initiative seeks to help maintain the reputation of honey as a high-quality, highly valued food and further sustain the U.S. honey sector. (Taken from: www.truesourcehoney.com)

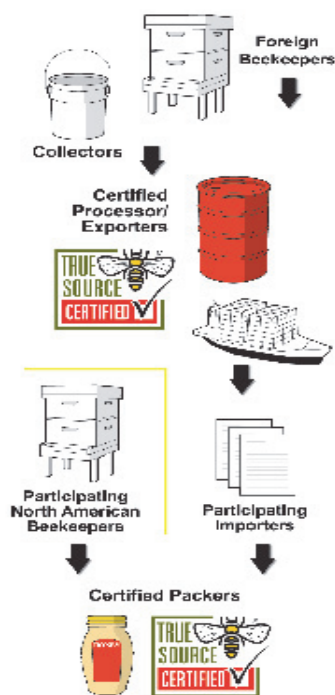
We, Dutch Gold Honey, pledge to protect our customers and consumers, as well as the global reputation of honey products, by ensuring to our utmost ability that honey is ethically sourced in a transparent and traceable manner from known beekeepers and brokers; that honey moves through the supply chain in full accordance with U.S. law and without circumvention of trade duties; that it carries truthful labeling as to its source, has been tested to ensure quality, and has been handled in a safe and secure manner from hive to table.

To find out more about True Source Honey, please visit www.truesourcehoney.com

Dutch Gold Honey, Inc is True Source Certified! For more information visit www.tshmember.com



Supply Chain



Why True Source?

- ✓ Provide customers and consumers with a proven country of origin claim, certified by a recognized international audit firm.
- ✓ Differentiate honey that has been ethically sourced and can be traced directly to the beekeeper.
- ✓ Help maintain the pure, wholesome image of honey.
- ✓ Support those in the honey industry who have taken a clear position in support of legal and ethical sourcing.



Learn More at www.truesourcehoney.com



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The Sweet Truth Behind Honey

FROM HONEY BEE TO SUPERMARKET SHELVES TO THE KITCHEN PANTRY, THE HARVESTING OF HONEY IS A MULTIFACETED STORY.

Harvesting Honey

- Harvesting honey is an ancient craft that begins with honey bees.
- Honey is made from nectar, gathered by honey bees from flowering plants.
- The honey comb is removed from the beehive and honey is extracted by a beekeeper.
- The craft of beekeeping naturally supports a healthy and thriving ecosystem.



Filtering Honey

- To ensure quality, improve clarity and delay crystallization, many honey packers use a filtration method.
- Honey is warmed up to help it flow through filters to remove pollen or residues from the beehive. Because filtered honey is cleaner and clearer than non-filtered honey, it is less likely to crystallize as quickly and it's more consistent in texture.
- A recent study showed that filtering honey did not impact nutrient content¹.
- Once the honey is filtered it goes through the bottling stage.



The Finished Product

- Read the label. Honey contains only one ingredient: honey.
- With no added ingredients or preservatives, honey is just honey.
- Pure honey is sold in several forms: comb, liquid, creamed/whipped and organic. A honey blend or honey syrup should list the other ingredients or sweeteners.
- There are more than 300 varieties of honey in the United States.
- Visit www.honeylocator.com to find varieties near you.



Versatile Pantry Staple

- Honey can be used beyond a simple sweetener. Think of it as a natural flavor booster.
- Honey can provide balance to any dish, complementing and enhancing a variety of foods and flavors: sweet, sour, bitter, salty and savory.
- For usage and recipe ideas, visit www.honey.com.



Cough Soother

- Honey can be used as a natural cough suppressant.
- A teaspoon or two of honey can be taken to soothe and relieve the irritation of a cough, according to emerging research².
- Click here to try out [Nurse Barb's Honey Cough Syrup](#) created by Nurse Practitioner Barbara Dehn, RN, MS, NP.



Nature's Skin Care

- Honey is a humectant, meaning it attracts and retains moisture, giving your skin a natural glow.
- Add a little honey to your normal moisturizing routine, or enjoy a honey mask and reap the benefits of this liquid gold.
- Try making a [Body Moisturizer with Honey](#) as your first do-it-yourself recipe.



Energy Booster

- At approximately 17 grams of carbohydrates per one tablespoon, honey is an effective, all-natural energy booster.
- Carbohydrates are the primary fuel the body uses for energy, making honey an ideal pick-me-up.
- For a quick energy boost, create your own [Honey Cherry Energy Bars](#), recipe made by Mitzi Dulan, RD, CSSD.



honey

One ingredient. The way nature intended.

¹ Heaps, D. "Comparison of Vitamin, Mineral and Antioxidant Levels in Raw and Processed Honey." 2012. Research project funded by the National Honey Board.
² <http://news.psu.edu/story/190201/2007/12/03/honey-proves-better-option-childrens-cough-sibs>



The National Honey Board announces the re-launch of The Sweet Truth Behind Honey

The real food movement isn't going anywhere as 57 percent of people have reported searching for foods made with simple, real ingredients. Honey—a natural sweetener often used for tea, baking and on toast—is pure and simply harvested from honeycombs with no added ingredients or preservatives. With more than 300 varieties of honey in the United States and a multitude of culinary uses, honey is becoming an even more popular ingredient for those seeking a more natural approach to their foods. However, the story from honey bee to table is sometimes misunderstood so misperceptions on authenticity, sourcing and bottling exist. The National Honey Board (NHB), a federal research and promotion board with the United States Department of Agriculture (USDA) oversight, has compiled [The Sweet Truth Behind Honey](#) educational platform to provide reliable resources and sustain consumer confidence in this versatile everyday pantry staple.

The NHB conducted an Attitude and Usage (A&U) study and learned first-hand that a majority of current users, past purchasers and non-purchasers report it is important for honey to be pure. Honey is just that, made by honey bees from the nectar of flowers and plants, not from [pollen](#). This is just one of several myths that need clarification, according to the NHB.

“Honey is produced by honey bees from the nectar in flowers. Some plants have flowers with nectar, some that just have pollen, and some have both,” says 40-year veteran beekeeper [Gene Brandi](#). “Nectar is a sugar-water solution that is found at the base of nectar-producing flowers. The bees collect the nectar and bring it back to the colony, store it and dehydrate it, and eventually turn it into honey.”

Consumer confusion doesn't stop once honey reaches the honeycomb. The bright color of typical honey in the supermarket is a result of filtering, which improves clarity. Research supports that filtering honey doesn't impact the nutrient content or antioxidant activity. Honey is made by honey bees from nectar of flowers and plants, not pollen. Pollen grains are seen as an accidental guest in honey, brought back as a food source for the baby bees. While filtering honey, the air bubbles, fine particles, other material in suspension and pollen grains are removed. Honey without pollen is still honey, nutritionally and in flavor.

“U.S. honey packers are filtering out the impurities and the particles because that is what causes honey to crystallize. One of the things that we're doing through the filtering step is extending the shelf life of honey, which is also a quality of honey that is important to consumers,” cites beekeeper and honey packer [Brent Barkman](#), Chairman of the NHB. “From research we know that consumers like a clear, golden product that's also free of particles and won't crystallize in the pantry. We're always looking for the highest quality product that we can provide to the consumer.”

While more than 83 percent of consumers are aware of the wide range of more than 300 honey varieties in the United States, most respondents actually buy honey for use in baking, tea or on toast. “In terms of functionality and how to use honey in recipes the list is very long,” notes [Marie Simmons](#), award-winning cookbook author and spokesperson for the NHB. “Honey is a natural flavor booster that works well in both sweet and savory dishes. It adds distinctive flavor notes, rich golden colors, balances the taste and holds and attracts moisture, especially important in baked goods. Additionally, honey is naturally antimicrobial, and therefore helps to prevent foods from spoiling.”

Honey is a natural product that contains just one ingredient: honey. The versatility of honey makes it easily accessible for consumers to use in their daily routines. Honey is a whole food, and as a carbohydrate, is considered a natural energy booster. Honey also has other uses outside of the culinary realm. With humectant properties, honey draws and retains moisture to help hydrate the skin. It is also recommended by the American Academy of Pediatrics and the World Health Organization as a natural cough suppressant in children after their first birthday.

The National Honey Board is an industry-funded agriculture promotion group that works to educate consumers about the benefits and uses for honey and honey products through research, marketing and promotional programs. For more information and recipes, please visit <http://www.honey.com>.





For Immediate Release

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Commercial Processing Does Not Negatively Impact the Nutrient Content of Honey

Firestone, Colo., April 19, 2013 – It is widely believed that raw honey is nutritionally superior to processed honey, largely because processing removes most of the pollen. However, research being presented at the Federation of American Societies for Experimental Biology (FASEB) Conference in Boston April 20-24 indicates that while processing does remove the pollen from honey, it does not negatively affect the nutrient content or antioxidant activity.

Researchers selected five random samples of raw honey from a total of twenty-two, 55-gallon drums of canola honey from Canada. The twenty-two drums were then blended and processed using standardized commercial processing techniques (which included filtering with diatomaceous earth) and two additional random samples were selected (processed honey). All samples were analyzed for micronutrient content (e.g., calcium, magnesium, potassium, vitamin B12), hydro- and lipophilic antioxidant capacity and pollen content. The results showed that processing significantly reduced the pollen content of the honey, but did not affect the nutrient content or antioxidant activity, leading the researchers to conclude that the micronutrient profile of honey is not associated with its pollen content and is not affected by commercial processing.

According to David Ropa, one of the lead researchers for the study, "Honey is made when the nectar and other sweet deposits from plants are gathered, modified and stored in the honeycomb by honey bees. Pollen can get transferred into the honey during this process; however, honey is not produced from pollen; it is produced by the use of nectar. Because the levels of pollen vary so greatly from one honey sample to the next, pollen levels are not a valid indicator of honey quality."

The study was funded by the National Honey Board, coordinated by Ropa Science Research and presented at the conference by Dr. Katherine Beals, a consultant for the National Honey Board. The study is available on the National Honey Board's website, www.honey.com.

The National Honey Board is a federal research and promotion board under USDA oversight that conducts research, marketing and promotion programs to help maintain and expand markets for honey and honey products. These programs are funded by an assessment of one cent per pound on domestic and imported honey.

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