



## Honey Trade in the 21<sup>st</sup> Century

- I'm happy to make a presentation at the request of my good friend President Tam. I have tried to outline the trends that will affect the international honey market in the 21<sup>st</sup> century.
- We have observed significant changes in the global honey production over the past few decades. New honey producing areas such as Vietnam and Brazil are making contributions to providing honey for the world population. Concurrently, changes in Argentina, America and Europe have created difficulties to sustain the levels of production which were achieved only a few decades ago.

# Honey Production and Consumption

- In the speech I will try to outline some of the major trends that are likely to occur in the 21<sup>st</sup> century in the international honey trade. First we should note global production trends from 2000 to 2008, according to the Food and Agriculture Organization (FAO) report.
- Total world production of honey has increased by 32% in this period to reach 1,517,747 metric tons, probably due to the increase in beekeepers and honey production in various countries.

# World Honey Production 2000-2008

FAO Statistics

## AMERICA, AFRICA, ASIA & WORLD HONEY PRODUCTION TOTALS 2001 - 2008

	2000	2001	2002	2003	2004	2005	2006	2007	2008
<b>Americas + (Total)</b>	340,553	320,379	320,446	322,689	332,115	344,797	363,343	319,643	325,086
<b>Africa + (Total)</b>	144,159	146,717	154,836	152,901	156,381	155,342	167,520	167,707	166,253
<b>Asia + (Total)</b>	448,329	458,510	491,354	513,331	519,477	541,187	591,907	609,059	639,849
<b>World + (Total)</b>	1,255,185	1,264,705	1,284,309	1,335,163	1,368,105	1,410,448	1,511,709	1,463,848	1,517,747

# Honey Production in Europe Declines Marginally

<b>EUROPE</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>
	<b>360207 MT</b>	<b>338548</b>	<b>354857</b>

# Production declines in North America

- Total production declined in North America over the period, due to declines in honey yields per hive in Canada and the USA.
- The causes may be related to Colony Collapse Disorder (CCD) and reduction of land areas suitable for honey production, which decrease is correlated to the increase in land used for the production of biofuels.
- Also there are concerns regarding migratory beekeeping practices and the resulting stress on the bees.

# US Honey Production declines 23% from 2000 to 2008

2008	74,293MT	163,786 lbs	
2005	95,454MT	210,437 lbs	
2000	99,454MT	219,256 lbs	

# Asian Production Increases

- Chinese production increased about 46% to 367,200 metric tons in 2008, Vietnamese production increased significantly to 16,000 metric tons, and Indian production was flat during the period.
- Production in Japan was modest. Japan imports 93% of its honey consumption.

# Honey Production in Asia

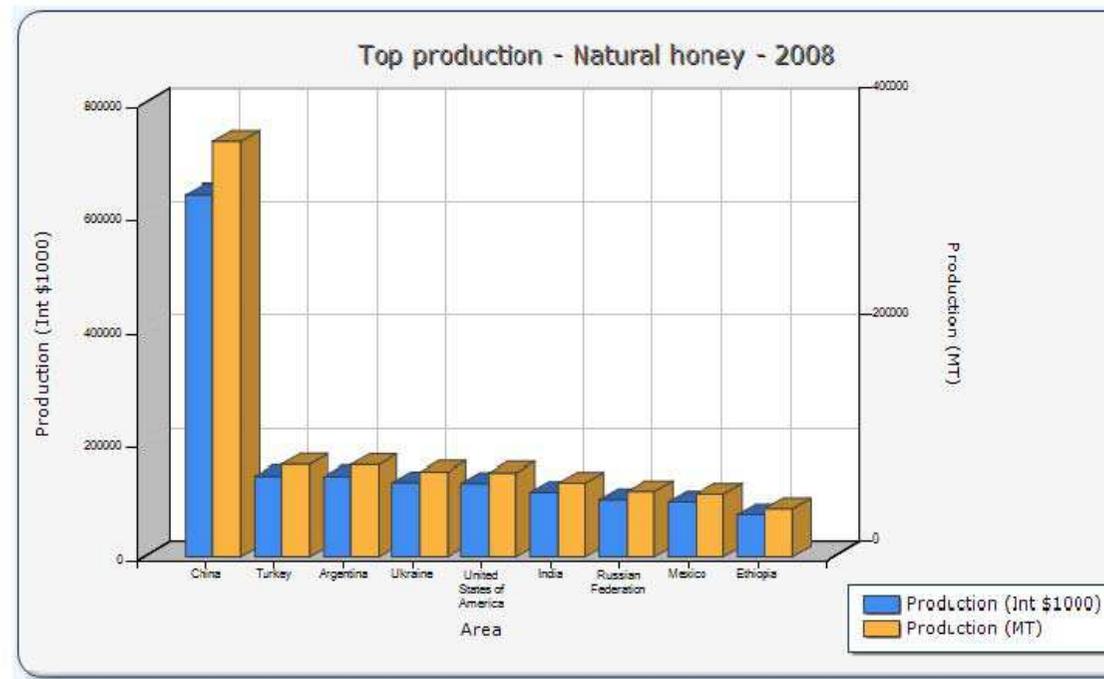
## 2000-2008

FAO Statistics

HONEY PRODUCTION IN ASIA (METRIC TONS)									
	2000	2001	2002	2003	2004	2005	2006	2007	2008
China	251,839	254,359	267,830	294,721	297,987	299,527	337,578	367,220	367,219
Turkey	61,091	60,190	74,555	69,540	73,929	82,336	83,842	73,935	81,364
India	52,000	52,000	52,000	52,000	52,000	52,000	52,000	52,000	52,000
Iran, Islamic Republic of	25,280	26,600	28,045	28,000	28,000	28,000	36,000	36,000	36,000
Korea, Republic of	17,741	22,040	20,000	18,000	15,651	23,820	22,939	26,488	26,488
Viet Nam	2	7,321	11,401	12,758	10,701	13,591	16,747	15,659	15,659
Turkmenistan	8,000	8,000	8,000	8,000	8,000	8,000	8,500	8,500	8,500
Thailand	3,500	3,500	3,700	3,700	3,800	5,000	4,000	7,800	7,800
Pakistan	1,500	1,500	1,500	2,000	3,000	3,500	3,500	3,500	3,500
Japan	3,400	3,300	3,300	3,300	3,300	3,300	3,300	3,300	3,300
--Central Asia +	12,513	12,939	13,343	13,246	13,027	12,571	14,318	14,855	14,745
--Eastern Asia +	272,994	279,713	291,140	316,031	316,948	326,657	363,825	387,020	397,018
--Southern Asia +	81,760	83,100	84,545	85,000	86,677	86,900	95,150	94,950	95,150
--South-Eastern Asia +	9,769	11,444	15,738	17,158	15,283	19,427	21,847	24,759	24,759
--Western Asia +	71,893	71,314	86,588	81,896	87,342	95,582	96,523	88,267	94,882

# Top Production by Country in 2008

FAO Statistics



- China, Turkey, Argentina, the Ukraine and the USA were the top 5 honey producing countries in 2008. Since that time, production has declined in Argentina and the USA.
- In the past decade, honey import patterns into the USA have become inverted, and this pattern may not be justified based on the data on honey production.

# Consumption of Honey

- Similarly there have been significant changes in consumption patterns. We can anticipate further changes as the popularity of honey, the appreciation of its qualities as a healthy and natural sweetener, scientific research on its health and functional benefits, and the creative marketing of honey, all develop and mature.

# World Consumption

- As we look at present levels, we find high consumption in Europe, such as:

Greece 3.5 lbs/person/year

Austria 3.1

Germany 2.5

Consumption in the US and Canada is:

Canada 1.9

USA 1.2

# Consumption in Asia and South America

- Consumption in Asia and South America is significantly lower, for example:

Japan      0.7 lbs/person/year

China      0.3

India      0.1

Argentina 0.3

Brazil      0.2

# Honey Consumption

- “Record honey consumption occurred in 2006, when an estimated 425 million pounds [192,778 metric tons] were consumed as table honey or as an ingredient of food or non-food products. With per capita consumption within a range of 0.8 to 1.1 lbs. since the 1980’s, most of the growth in honey use can simply be attributed to population growth”
- “Europe, Japan and the U.S. accounted for 80-85% of global imports between 1995 and 2007.”
- (Daberkow, *Commercial Marketing of Honey in the U.S.*, 2010, preprint).

We must also understand the different variables that are influencing and will likely continue to increase both production and prices.

These factors include:

- Increased global industrialization
- Reduction in arable land
- A shift to more profitable enterprises as societies become more industrialized and urban populations increase
- Increased cost of production
- Increased vulnerability of bees
- Climatic volatility, more severe droughts
- Volatility in relative currency values, which affect the comparative advantages and disadvantages for different countries in purchasing honey.
- Antidumping laws, as various countries adopt policies to protect domestic industries

- Beekeepers and honey packers around the world are concerned that if the circumvention of cheap honey is not stopped in a comprehensive and timely way, there will be an unfair price advantage between legal and illegal honey, and a march to monopoly by those engaged in circumvention.

# Honey Production Changes

- Factors affecting the production of honey, including drought, reduction in the amount of arable land due to urbanization and industrialization, climate volatility, and bee diseases.
- From 2000 to 2008 total world production increased by 20% but there was a decline of 5% in North and South America.

# Honey Science

- The development of international honey trade requires increased understanding of the science of honey. A global data base of primary honey samples that take into account climate, elevation, methods of blending, floral sources is essential for both scientific and legal credibility. This data base cannot be established with legal and scientific credibility only by commercial laboratories. Such a study should involve academic and government entities. It should be rooted in objective science, not commercial interests. The FDA protocol was designed over 10 years ago and called for the collection of certified samples for honey, which has a wide diversity of chemical profiles within and among nations.

- The international industry should support such a study that by its nature would involve cooperation from all major honey producing countries. Such a study must take into account all the relevant variables, including floral source, climatic conditions, elevation, that affect the metabolic and photosynthetic processes and production of honey through the interaction of botanic and zoological life.
- As the FDA protocol asserts, you cannot accurately extrapolate from a narrow data base onto a broader one.

International Investigation into the Chemical Composition of Honey  
Preliminary Collection Outline

Michael A. McLoughlin and Samuel W. Page; Office of Pests and Dairy Foods and Beverages,  
Division of Natural Products, Jerome A. Schneidman; Office of Scientific Analysis and Support,  
Division of Mathematics, U.S. Food & Drug Administration, Washington, DC 20204

INTRODUCTION

Honey is a commodity that is recognized worldwide as a valuable food and sweetener. This popularity makes it a natural candidate as an internationally traded commodity. As import restrictions have been removed with the adoption of new trade agreements, questions of regarding the authenticity of commodities such as honey have come forth. The use of various isotopic methods, such as stable carbon isotope ratio analysis (SCIRA), have proved to be useful in the efforts to detect adulterated products. However, these isotopic methods are based on the database of samples used in the establishment of the test parameters. Variations in a product, such as honey, can come from differences in geographical origin, botanical source and processing technique. If the database is not representative of the particular commodity, then the method will be valid only for samples covered by the database. At the present time the database concerning the chemical composition of honey (sugars, protein, HMF, etc.) is sufficient for U.S. honeys, but is lacking with reference to samples from other countries. It is our intention with this study to provide a more international database of values for the chemical composition of honey.

- In 2008, the Vietnamese honey industry held a conference to discuss honey quality issues, and have been working hard to develop their production and develop a system of honey traceability.

# Vietnamese Honey Industry Discusses Honey Science 2008





- The Vietnamese met in Hanoi with the representatives of the U.S. government to discuss ways to prevent circumvention of honey by establishing a mature and thorough traceability system to trace honey production from beekeepers to point of export. This effort includes establishing a detailed data base of authentic Vietnamese honey types, which effort has been underway since January 2010. These samples are drawn from the main producing areas, during the main collection period, from floral sources used to produce commercial quantities of honey. This provides a model for all major honey producing nations.

# International Honey Standards

- Because of the fact that bees are vulnerable to diseases and must be protected, honey does not exist in a realm of ultra purity. Bees are essential for the production of honey, for the pollination of crops that are needed to feed humanity. In America, one third of the crops are dependent upon bee pollination. We need to establish tolerance levels and testing levels, international standards and internationally accepted good beekeeping practices.
- We can anticipate safety and testing standards for honey as all kinds of foods, such as seafood, fruits, vegetables inevitably come under scrutiny.

# Traceability

- Honey traceability has become increasingly important for honey consuming countries as part of the trend towards monitoring all food imports for quality and safety.
- Country of origin labels are required on retail honey products in the USA.

- Because of the increase in the global trade in honey, and the fact that the major consuming countries do not produce enough honey to satisfy their needs, honey trade is necessary. Issues of legality and safety are leading to demands for traceability of honey from all origins. Traceability from individual beekeepers, to honey exporters or dealers, and to honey packers, is critical for compliance with good manufacturing practices and for strong quality control to ensure purity and origin. Countries like Brazil and Vietnam have made great progress in working to establish traceability systems. This trend is inevitable in the 21st century.

# U.S. Antidumping Law

- The US has been under the influence of strong antidumping orders. These orders have resulted in prohibitively high duties on Chinese honey. China is by far the largest honey producer and the current estimate is 367,000 metric tons/year. New floral sources have been introduced in China which will likely increase both the quantity and variety.

## 11 Execs, 6 Foreign Firms Caught in Honey Sting

(Sept. 2) — U.S. consumers stand a better chance of buying honey free of drugs, chemicals and other illegal contaminants because investigators from several federal agencies have scooped up some of the biggest players in the sticky, international honey-laundering maze.

A 70-page indictment, released in Chicago by U.S. Attorney Patrick Fitzgerald, reads like Cliffs Notes for a spy novel: smuggling, bogus shipping papers, phony lab tests, shipments to Chicago warehouses and small honey-packing plants in Washington's Cascade Mountains. All that's missing is the sex.

Eleven Chinese and German executives and six of their food supply and honey export companies were charged Wednesday with 44 counts of conspiring to illegally import Chinese-origin honey, including honey tainted with antibiotics, into the U.S. by mislabeling it as originating in other countries to avoid paying anti-dumping fees, Fitzgerald said.

Why the foreign intrigue with something as benign and universally loved as honey?

The one-word answer is money. Tens of millions of dollars, and that's just what the field agents and federal prosecutors can prove at this point.

These are not nickel-and-dime scams.

"They are charged with conspiring to import more than \$40 million of Chinese honey to avoid paying anti-dumping duties of approximately \$80 million," said Leigh Winchell, special agent in charge of Homeland Security Investigations in the Pacific Northwest. (HSI was formally known as ICE, or Immigration and Customs Enforcement.)

### Illegal Additives Create Health Problems

Fitzgerald said the defendants were distributing "adulterated honey that never should have reached the U.S. marketplace."

The adulterants — illegal additives that the U.S. Food and Drug Administration says cannot be permitted in any food product — included mostly small amounts of the antibiotics and antibacterial drugs Ciprofloxacin, Norfloxacin, Chloramphenicol and Furazolidone.

Health officials say these chemicals can create health problems for just a small percentage of the population with specific chemical sensitivities. Public health experts say the public should never be exposed to unneeded antibiotics.

# Schumer: NY'S Honey Industry Under Assault by Chinese 'Honey Laundering'

— Senator Says Chinese Unfair and Deceptive Trade Practices Could Devastate Multimillion Dollar NY Honey Industry, Hurt Farmers, and Put Consumers at Risk

**O**n June 9, 2010, U.S. Senator Charles E. Schumer called on the U.S. Immigration and Customs Enforcement (ICE), U.S. Customs and Border Protection (CBP) and the U.S. Food and Drug Administration (FDA) to crack down on "honey launderers" that are undermining New York's honey producers. Almost a decade ago, the United States started imposing duties on honey imported from China after it found that Chinese exporters were engaging in predatory trade practices. But in the subsequent years, Chinese companies began to get around the duties by shipping the honey through other countries—such as Malaysia and Indonesia—and thereby circumventing payment of U.S. duties and food safety standards. Chinese exporters also intentionally mislabel their honey shipments and set up shell corporations to avoid paying duties. The practice threatens to undermine New York's multimillion dollar honey market and deprives the United States of \$100-200 million a year in duties. Additionally, because bees pollinate all sorts of crops, any threat to the domestic honey industry is a threat to many major agricultural industries.

"This is just one more example of China playing by its own rules to the detriment of everyone else," said Schumer. "Instead of simply selling their product in a fair and competitive way, the Chinese are using illegal, backdoor deliveries and mislabeling their product to accomplish their goal. Today I am calling on the federal government to issue a stinging rebuke to these practices, and once again level the playing field."

New York's honey industry is one of the nation's largest, ranking 12th in total production in 2009 and serving as the Northeast's largest beekeeping state. Just last year, New York's honey producers manufactured over 3 million pounds of honey and raked up \$5.3 million in sales, all while employing thousands. Despite the fact that New York has a robust honey industry, it is has been severely strained over recent years as cheap honey from China has flooded the U.S. market. For example, the United States Department of Agriculture (USDA) keeps track of

**Schumer Demands Feds Take Immediate Steps to Crack Down on Shady Practices Allowing Illegal Chinese Honey into United States – Shipping Through Other Countries, Mislabeling Shipments, and Setting Up Shell Corporations**

total sales from the honey industry and in the last year that final sales figures are available (2003-2007) show a 36.4% decline, which coincides with China's "honey laundering" scheme to circumvent the duty.

Although USDA estimates indicate that New York's honey industry has ticked slightly upward since 2007, the overall trend is still downward—over 15% from 2003. If the federal government does not step in and blunt China's predatory trading practices, then the industry will continue to decline hurting New York's economy and endangering thousands of jobs. Also, since bees pollinate so many crops, a further deterioration in the honey industry is likely to have a cascading effect on the entire New York agriculture industry. Beyond the domino effect that China's continuing trade practice would have on agriculture across New York, the continued predatory trade practice would hurt small businesses that sell honey prod-

**In 2001 United States Levied Duties On Chinese Honey After Chinese Exporters Found To Be Engaging in Predatory Trade Practices – Chinese Companies Now Illegally Avoiding Duties**

ucts. Throughout every region of New York, businesses that sell honey boost the local economy and create jobs, but would see a crucial part of their business put at risk if the status quo continues.

In 2001, the United States began levying duties on Chinese honey to balance China's unfair trade practices. Since then China has developed a complicated scheme to circumvent international trade laws and sell cheap honey in the U.S. at the expense of domestic producers. China does this in several ways:

**China mislabels honey as malt sweetener or blended syrup to avoid paying the antidumping duty.**

Schumer said that such a method could be thwarted simply by the FDA instituting a "pure honey standard," essentially a definition of what honey is - something he today urged the FDA to implement. Schumer said the FDA and USDA's Food Safety and Inspection Services (FSIS) share responsibility for ensuring that food labels are truthful and not misleading. FSIS has the authority to regulate the labeling of meat and poultry products, and FDA has the authority to regulate the labeling of all other foods. Food standards are used to ensure that products sold under particular names have the characteristics expected by consumers.

While the FDA is not responsible for enforcing trade law, the agency is responsible for ensuring the safety of much of the U.S. food supply. Standards of identity are referenced throughout FDA regulations and the existence of a standard of identity can trigger application of laws not otherwise applicable to non-standardized foods. Establishing a honey standard would provide FDA and other federal agency enforcement officials with a tool to ensure the purity of imported honey and to detect the existence of potentially hazardous additives. In addition to safeguarding the food supply, this tool would make it easier for U.S. officials to prosecute those who seek to exploit loopholes in our food safety system.

**China exports honey to the United States through other countries.**

The United States produces less than half

# Marketing Trends

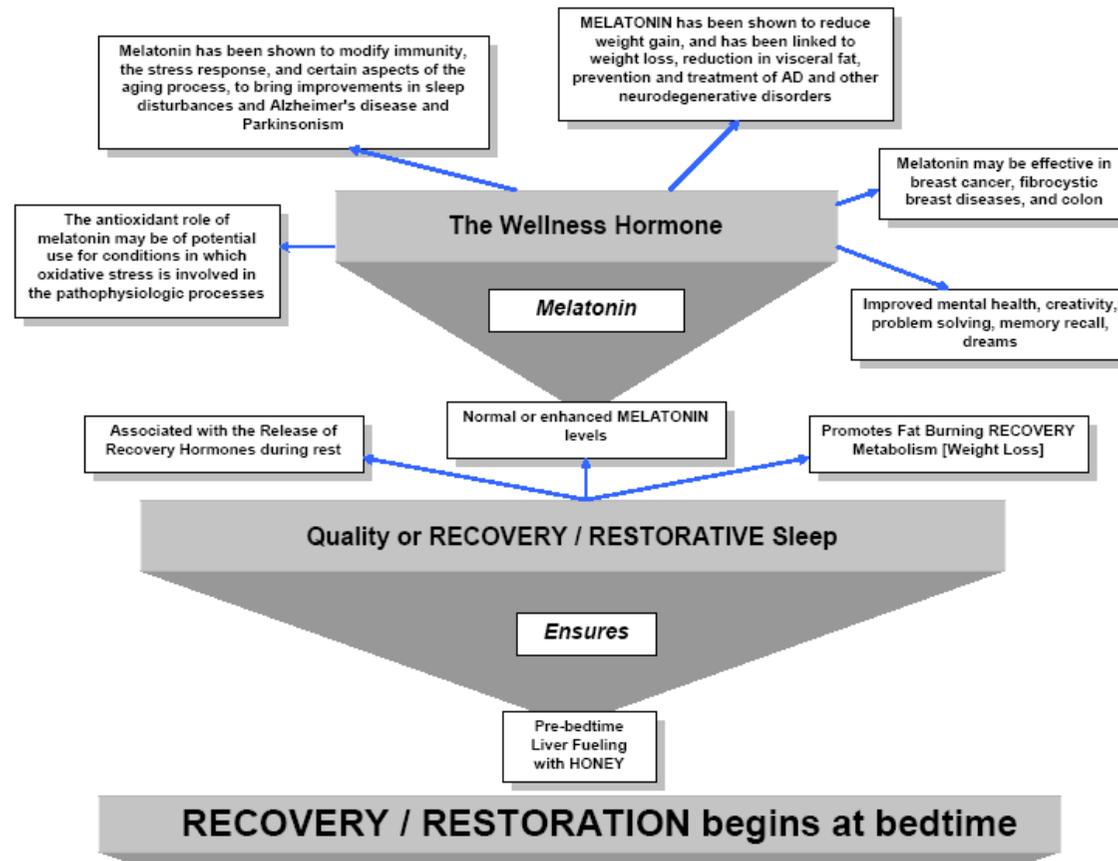
- Honey is marketed to consumers using geographic locations, floral sources, flavor profiles, color, health benefits of honey as a natural sweetener, etc. Honey is associated with a “halo of health.”
- The opportunity to use good science as a marketing tool has good promise. This is happening to other foods such as fruits, tea, wine, and chocolate. In 2008 we held the First International Symposium on Honey and Human Health in the United States. Scientists from Sweden, Switzerland, New Zealand, Australia, Canada, Scotland, the USA and other countries participated..

# Health Benefits of Honey

- One of the potential health benefits which was discussed was honey's association with suppression of stress hormones and the encouragement of healing hormones in the body.

# Honey may enhance sleep

(Fessenden, *Honey Revolution*)



- Marketing food products on the diversity of flavor and the beauty of the producing area, is a trend that can benefit the honey industry. Wine, coffee and teas are marketed by regions of production and people have come to appreciate products of diverse origins and the beauty of their production. Marketing efforts that add to the romance and intrigue of a given category of food have created consumers who are willing to pay more for special qualities and varieties of wines, coffees and teas.
- Organic and “green” or environmentally friendly products, of which honey is one, are especially attractive to today’s consumers, and we anticipate increased sales for organic honey.
- There is a good potential for export of American honey to Asia, for example, due to its special floral sources and flavors.
- Industrial utilization of honey for foods such as baked goods, salad dressings, beverages, and snacks in consuming countries is increasing.

- As the 21<sup>st</sup> century proceeds, there will be an inevitable trend towards consolidation of both beekeeping operations and honey packing operations. There will also be more direct competition and collaboration between consolidated beekeeping operations and a consolidated honey packing industry. This is possible because of advanced communications, modern transportation and the power of concentrated marketing.

# Industry Consolidation

- That is to say there will be an increase in both horizontal and vertical integration of the honey industry as a whole. This consolidation will better help stabilize supply and demand relations, prices and marketing.
- Argentine, Brazilian, Canadian and American honey producers are moving in this direction, the former in relation to European packers and the latter in respect to Canadian and American honey packers.

- The sustainability and value of consolidation will depend upon a honey industry based upon integrity and conformity to both domestic and international law.

- The International Honey and Health Committee uses a saying as follows:

*“Honey is the soul of a field of flowers.”*

