



# INTERNATIONAL HONEY MARKET

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*The Incentive to produce honey is eroding. The Integration of the Incentives to produce and consume honey is elusive. Someone is benefiting. The consequences extend to agriculture and ecology.*

## Introduction

Honey prices have steadily and precipitously fallen over the past year. The burdens upon beekeepers and honest players in the international honey market are terrible to bear. The *Alberta Bee News* reprinted a letter from the Canadian Honey Council to the Minister of Agriculture and Minister of Health in May, 2016, stating:

“Unfortunately, the cost of production has not decreased in relationship to honey prices. In fact, we are observing the opposite, prices are decreasing and expenses are increasing. Current programs do not address the unique situation the beekeepers are finding themselves in...

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the U.S. has imposed anti-dumping tariffs on Chinese honey as high as 223%...we do not want to see Canada being used as an alternate point of entry...”

Honey prices from trusted and reliable honey-exporting countries such as Argentina have declined 50-60%, due to both 1) an excess of world honey inventories from the 2015 crop and 2) difficulties selling the 2016 crop, even at substantially depressed prices.

In September, 2014, I spoke to the South American Beekeepers Conference in Iguazu Falls and indicated that a Point of Inflection had been reached. Now the international honey market urgently needs to reach a Point of Stability from which processes of recovery may commence. The market, like the human body, needs an integration of all its parts. We cannot achieve a healthy stability unless we understand the causes for the precipitous and disastrous decline in prices. Such understanding requires a clear perspective on the role of circumvention, transshipment, adulteration, contamination, fraud, nefarious methods of both producing honey and disguising its origin, and the irresponsible ambitions propelling a distorted market.

## U.S. Honey Production and Prices

Dr. Stan Daberkow, formerly economist for the U.S. Department of Agriculture, and co-author of our Chapter on Marketing in the *Hive and the Honey Bee*, has insights regarding the overall environment within which the American market is functioning. He has illustrated the significance of the American beekeeping industry to American agriculture as a whole. We note that beekeepers provide pollination ser-

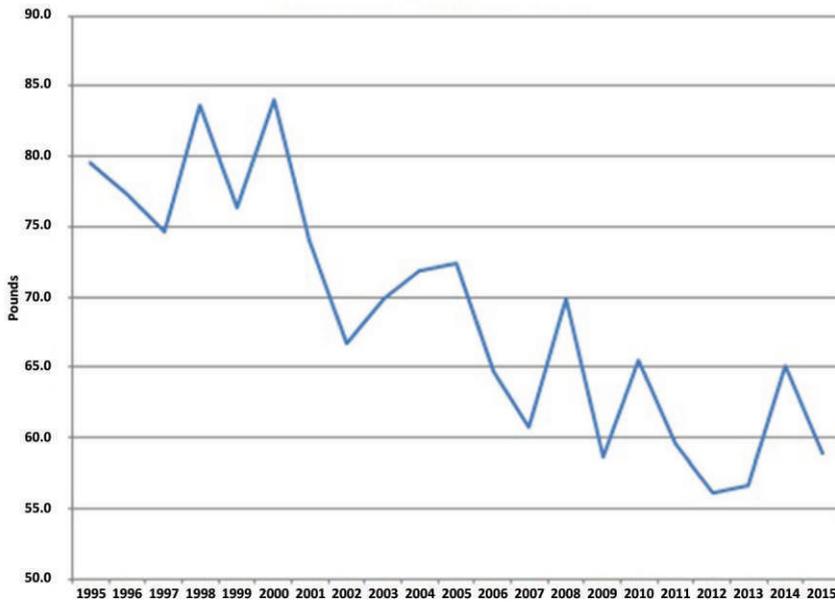
vices essential to producing over one-third of the American food supply inclusive of some of the most anti-oxidant and phytochemically rich foods vital to a healthy human diet and the prevention of human disease.

## Major crops that require or benefit from insect pollination and estimated 2006 rentals

| Crop             | Colony Rentals   |
|------------------|------------------|
| Almond           | 1,362,500        |
| Apple            | 486,684          |
| Melons, all      | 274,850          |
| Alfalfa seed     | 220,000          |
| Cucumber, all    | 198,185          |
| Cherry           | 166,370          |
| Pear             | 95,070           |
| Plum/prune       | 87,940           |
| Blueberry        | 84,275           |
| Vegetable seed   | 55,000           |
| Avocado          | 45,820           |
| Macadamia nuts   | 44,375           |
| Sunflower        | 45,000           |
| Cranberry        | 38,050           |
| Squash, all      | 29,375           |
| Pumpkins         | 28,890           |
| Kiwifruit        | 11,625           |
| Specialty citrus | 6,960            |
| <b>Total</b>     | <b>3,280,969</b> |

The pattern of declining yields per hive in the US is due to various bee diseases, colony collapse disorder, pesticides which are toxic to bees' neurological system, loss of forageable land, and volatility of severe weather patterns. These conditions are replicated in many countries which

**Honey Yield Per Colony, 1995-2015**



have experienced, mature and sophisticated beekeeping expertise. Richard Adece, whose company manages 80,000 beehives, recalls when yields of 150 lbs/hive were normal. Now 50-70 lbs./hive represents the norm. This experience in mature producing countries is in sharp contrast to the apparent huge increases in quantities and productivity reported in several of the emergent honey-exporting countries.

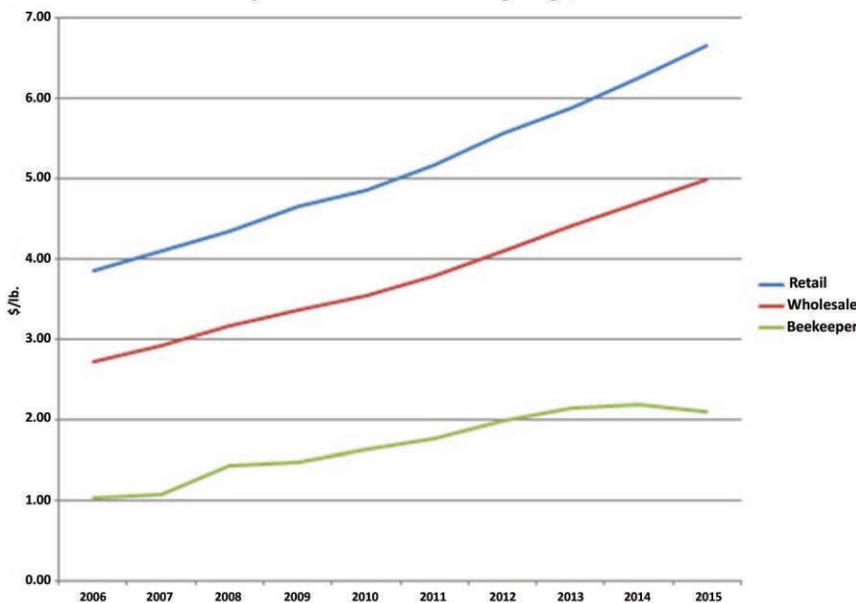
It is also worthy to note that total honey consumption during the past decade was increasing, exceeding 500 million pounds in 2015, and annual per capita consumption was stable despite significant and steady rises in raw honey prices. Both retail and wholesale prices of honey

increased steadily for 10 years preceding January 2016.

As illustrated in the chart below, while from 2013 to 2016 honey prices declined while the prices of wholesale and retail honey increased, significantly widening the gap between inputs and outputs.

According to National Honey Board Statistics, total U.S. honey consumption was 512 million pounds per year in 2015. When other factors and data are considered, including production of honey by smaller producers and sales through markets that are not tracked, total US consumption is estimated at 550-600 million pounds per year. Honey is a “small luxury,” a natural and pure product and

**U.S. Honey Prices at Each Marketing Stage, 2006-2015**



Prepared by S. Daberkow

one whose health benefits await further scientific and medical investigation. As that happens, we anticipate further growth in both total honey consumption and per capita honey consumption.

The precipitous recent decline in imported honey prices clearly was not due to declines in consumption or consumer resistance but, instead, to other factors which include circumvention, transshipment, adulteration and production and processing of honey by non-standard methodologies. Previous honey market reports, including those of January and April, 2016, discuss those factors in more detail. The forms of fraud may, and do, vary but the phenomena of fraud clearly underlies the devastating plunge in honey prices over the past year and a half, when all the evidence is considered.

**US Imports Jan-March**

|                                | Jan.-<br>Mar.<br>2015 | Jan.-<br>Mar.<br>2016 | %<br>change |
|--------------------------------|-----------------------|-----------------------|-------------|
| <b>Total imports (mil. Kg)</b> | 35.3                  | 32.6                  | -8          |
| <b>CIF Value (mil. \$)</b>     | 128.4                 | 98.5                  | -23         |
| <b>\$/lb.</b>                  | \$1.65                | \$1.37                | -17         |

Prepared by S. Daberkow, AMS data

**Global Weather Patterns**

Global weather patterns have also played their role in bringing El Nino and heavy rains to South and North America and heat and drought to Asia in winter and spring 2015/2016. The warm waters of the Eastern Pacific migrated to the Americas leading to colder ocean temperatures in the Eastern Pacific, the Indian Ocean, etc. which have produced severe droughts and heat waves in honey-producing countries like India and Vietnam.

April of this year was the hottest month according to global records, glaciers are melting not only in the Arctic but the Himalayan Mountains and China's vast eastern mountain ranges ( the Roof of the World). The steady and steep decline of approximately 37% of the glaciers in India and China threaten the adequacy of water supplies not only in India and China, but Southeast Asia whose water systems are fed by and emanate from the Roof of the World. Given the immensity and density of the human population living therein, these trends are very serious and difficult to reverse as many of the physical-chemical processes involved in climate change are self-feeding processes leading to inexorable changes. Global sea levels continue to rise dangerously. Weather patterns in North America have also witnessed their own anomalies including hail storms in the southern half of the country this spring.

El Nina has temporarily ameliorated the severe four-year drought in California and its drain of geological water reserves.

### South America

There has been great political turmoil, conflict and transitions in many major countries in South America. Argentina had a major change in its government and economic policies beginning in December, 2015. Brazil is immersed in an impeachment process pitting pro business and pro labor factions in intense unfolding conflict. The overall geo-political tensions and the international economic malaise and stagnation, declines in commodity prices and fossil fuels prices, stress in the international financial system including growing portfolios of non-performing loans, provide the context and contours within which these conflicts are erupting like “Old Faithful” in Yellowstone National Park.

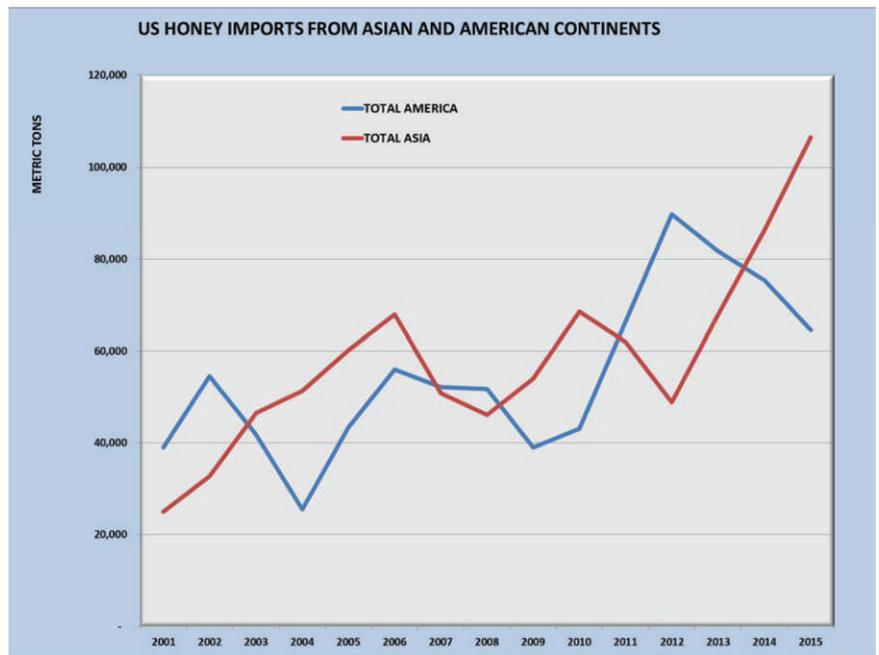
### Argentina

Argentina’s current crop is completed and estimated at about 65,000-70,000 metric tons. Because of the surge of unexpected exports in 2015 from Ukraine, India, Thailand, Turkey, including white honey and extra light amber, Argentina’s 2015 crop had a huge carry over of unsold honey in warehouses, both in Argentina and the USA. The unsold Argentina honey exported to the U.S. was exported under the pressure of an Argentine government policy, now rescinded, that, in order to import high profit technology into Argentina a company had to export Argentine products. As those inventories of unsold honey faced the new crop, which was also largely unsold, the downward pressure on prices was crippling to Argentina beekeepers. The import prices reflect contracts established many months earlier; the current situation of further declines will appear in statistics only later.

We see Argentine honey exports for January and February 2016 were 7 million pounds, an increase over 2015, but price levels decreased by 30% compared to the first quarter of 2015. The situation further deteriorated and by early spring, 2016, Argentine honey prices had declined by 50-60% from 18 months earlier. Decreased activity for Argentine honey in the American market led Argentine exporters to diversify destinations and work with Germany (300% sales increase since last year), France and Italy.

Currently, the European market has become much more active in purchasing Argentina honey. European packers and retailers have heightened concerns about the quality and authenticity of honey from China, India and Ukraine. Europe is paying higher prices for Argentine honey than the US market, which remains saturated with lower priced honey from a plethora of sources.

US imports of honey from the Americas are compared to imports from Asia in the chart above:



During the past 5 years Argentine honey exports to the US have declined. These shifting patterns are clearly and profoundly influenced by the emergence of large new exporters of white and extra light amber honey, such as India, Ukraine, Thailand, Turkey and Taiwan. Prices of Extra Light Amber honey from Argentina, Ukraine and India are compared in the chart shown below.

### Brazil

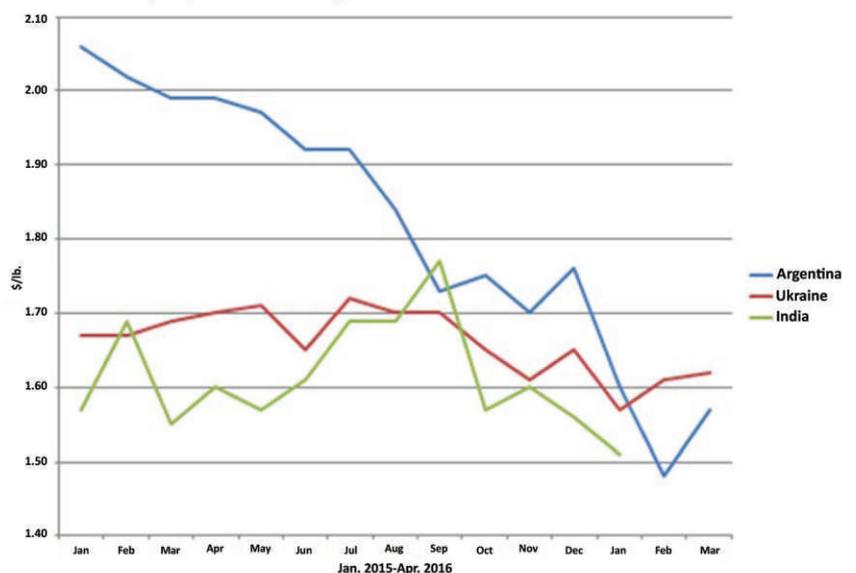
Brazil remains the world’s major exporter of organic honey. In virtue of the immense Amazon eco-system, vast National Preserves and strictly monitored private lands, Brazil has the ability to meet the stringent conditions for both organic and GMO-free honey.

Brazil in October – December, 2015 (springtime) was hit with devastating

rains which closed ports, collapsed mines and significantly reduced the first organic honey crop. The second crop of February-March was lower than expected. As June approached, there remained many contracts made in the 4<sup>th</sup> Quarter of 2015 which were unshipped. This fact has caused an aberration, i.e. rising prices for Brazilian organic honey; delayed shipments and shortages of organic honey.

At the same time we should note that Brazil’s overall honey exports have declined. In the first 9 months of 2015, Brazil exported 16,748 metric tons, which is a decline from 2014 when Brazil’s honey exports were over 21,000 metric tons. The reason is simple. Brazil, like Argentina, Uruguay, Mexico, etc., cannot compete in respect to prevailing prices in the conventional (non-organic) honey market. While the organic food market, including the

Monthly Imported Extra Light Amber Prices - Mixed Flowers (source: AMS)



organic honey market, is growing, wise members of Brazil's honey industry realize that if the market for conventional honey remains so low, or collapses further, the price gap between organic and conventional honey will become too huge and the demand for organic honey will decline. The only viable solution is for the prices of all honey, conventional and organic, to recover and the incentive to produce honey to be restored.

### Vietnam

Vietnamese honey exports precipitously declined in recent months. The major factor is the quality of Vietnam's floral source *Acacia mangium* which is color unstable. What is produced as light amber (70-85mm) rapidly and continuously darkens to amber and even dark amber. The chemical profiles of *Acacia mangium* have been studied by academic scientists who confirm this color instability. As the US market for amber and dark amber honey is very small, Vietnamese honey exports have declined, after 3 years of surging volumes.

The Vietnamese honey industry is concentrating more on their traditional floral sources including rubber, coffee, lychee, cashew and longan and a few others. Presently, Vietnam like other southeast Asian and sub-continental countries, is suffering the heat and drought brought by La Nina.

In May it was announced that 60 metric tons of honey that was entered in the U.S. as Vietnamese origin was seized and destroyed by U.S. authorities. The Vietnamese honey industry said that this was honey exported not by Vietnamese exporters and members of the Vietnamese Beekeeping Association but by Taiwanese and/or Chinese companies. We don't know the facts of this seizure, but it is known that fraudulent country of origin and bills of lading have been utilized to avoid duties by honey exporters in Thailand, Malaysia, Indonesia and the Philippines.

It is very interesting and ironic that the President of the US visited Vietnam in May, 2016, to strengthen geo-political, military and economic relations. The Vietnam War was pursued for a decade to contain what

was argued to be China-sponsored "Wars of Liberation." The strategic warming of relations between the US and Vietnam is now being pursued to counter what is perceived as neo-imperialistic interests of China in Southeast Asia and elsewhere. It is a sea change in economics, political and military relations.

### China

In March of this year, China conducted a second international conference on the Quality of Honey in Sichuan Province. This type of exchange, of course, has potentially very positive value if it contributes to improvements in quality, purity and authenticity of honey, and the operation of free and fair international markets.

Authentic honey must be fully mature and extracted by bees, not from vacuum chambers. Enzymes from the bee's hypopharyngeal glands break down the nectar into simple sugars. Ripened honey retains its status as a product of nature.

This meeting was surely arranged with the anticipation that in December, 2016, both the European Union and the US would grant China Market Economy Status. Such a change was envisioned in and was part of the WTO accession protocol of China's entry into the WTO. If market economy status were to be granted, the use of surrogate country analysis for China's antidumping cases would cease. The use of surrogate country analysis is viewed by many lawyers and economists as underlying the high and prohibitive anti-dumping duty rates calculated for many Chinese goods. The Chinese government has threatened to bring a lawsuit before the World Trade Organization demanding fulfillment of what they perceive as a 2001 formal pledge that after 15 years China would be granted Market Economy Status in December, 2016. However, that change does not seem as imminent as China hoped and anticipated. On May 12, 2016, the European Parliament recognized that there is no legal obligation for the EU to grant market economy status to China and passed a resolution to that effect. The argument was based upon evidence that China was not practicing free market economics.

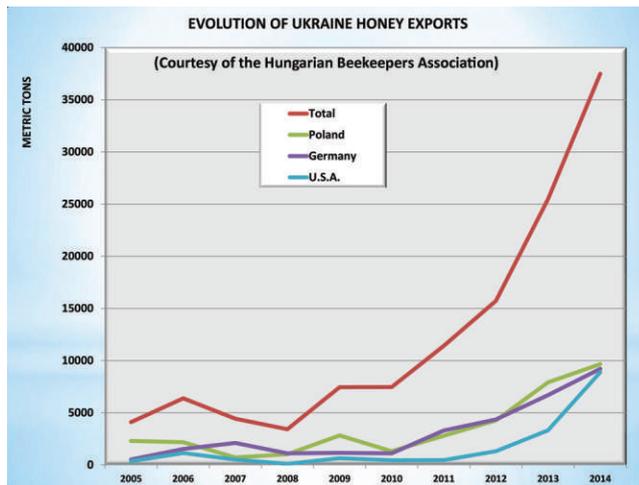
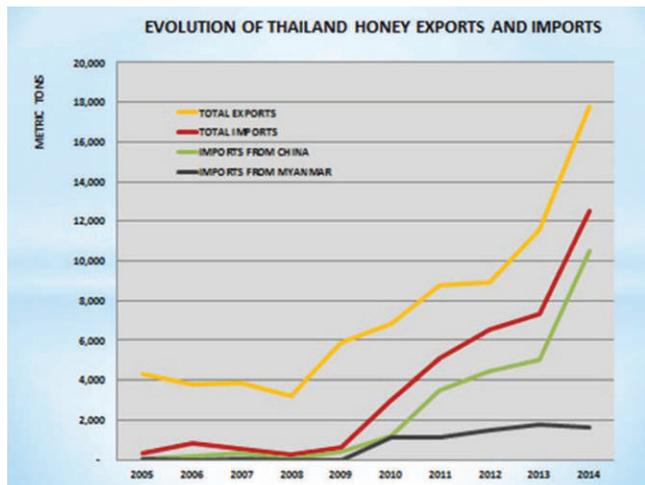
In think tank discussions in Washington,

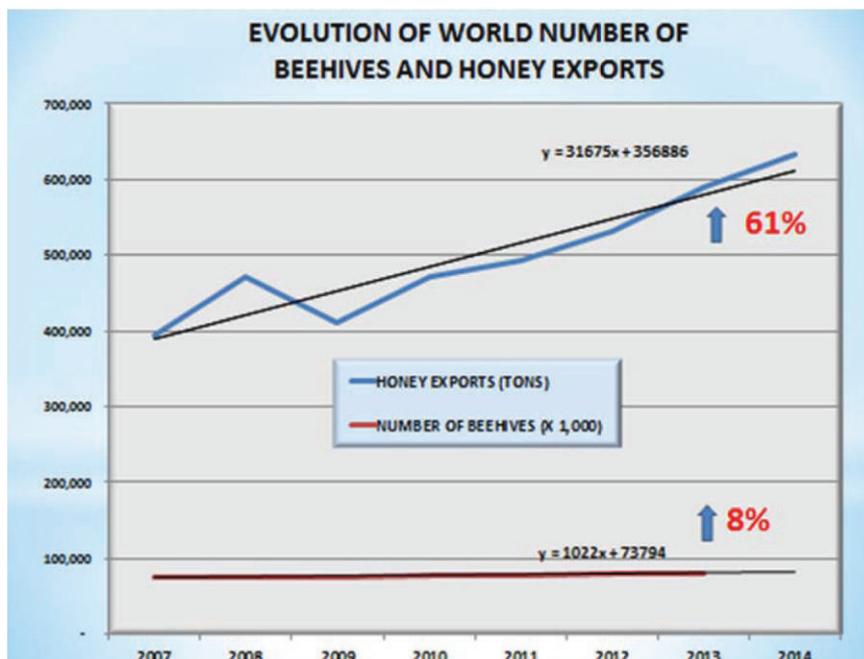
D.C. this spring, the general consensus was that China does not qualify and will be continue to be treated as a non-market economy for the foreseeable future. A compromise was suggested that different Chinese industries, such as the steel, solar panels, or honey industry, could argue for market economy status as specific industries. Given the recent history of circumvention, transshipment, fraudulent documents, adulteration, food safety issues and no known or apparent effort by the Chinese authorities to stop, curtail or punish those who have colluded and conspired to circumvent or adulterate honey, the granting of market economy status for China's honey industry seems improbable, especially during this intense election year.

China's aggressive Direct Outside Investment (DOI) continues, and in February a China national chemical company acquired the Swiss company Syngenta, which is one of the world's largest manufacturers of seeds crucial to global agriculture, at the price of \$43 billion. Lurking in the shadows of the international honey industry is China's investment strategy to achieve directly or through surrogates international, vertical and horizontal integration. This strategy has already resulted in acquisition by Chinese commercial interests of exporters, importers, packers and beekeepers and vast tracts of agriculturally rich land.

When quality considerations are taken into account we must bear in mind that the overwhelming majority of Chinese honey produced during the past 4-5 decades is immature honey which is extracted at 35-40% moisture. It is in sophisticated factories that the high moisture levels are reduced by vacuum chambers. The vast quantities of honey produced, like the high rates of productivity achieved, are a direct result of this production of "water honey (shui feng mi)." Such "honey" does not meet the standard international definition of "honey." As Prof. Vaughn Bryant has written in his 2014 article "Pollen Studies of East Texas Honey" which appeared in *Palynology*: "Enzymes from the bee's hypopharyngeal glands are added to break down the nectar into simple sugars."

Not to allow honey to fully ripen by the





ual family budgets of this wholesome, pure, healthy and natural historic product would be unnoticeable. Rather than price wars, which ultimately will erupt on all levels of the industry, the international honey industry needs integrity and creative marketing. There is a deep motivation to transform the honey industry in a positive and creative way. The implications of vital international and American beekeeping industries reach to the honey market, agricultural interests, the preservation of global ecological systems and the security and safety of the food supply.

Prepared by Prof. Norberto Garcia, President, International Honey Exporters Organization

interaction of bees and botanical nectars is to deprive honey of some of its health benefits and reduce it to the category of “added sugars” which have generated increasing concern from the U.S. FDA.

### Europe

In June, the European Commission is scheduled to release a detailed and systematic study of the quality of Chinese honey imported into the EU. There are efforts to detect the use of resin technology to manipulate honey to disguise country of origin, adulteration and contamination. In Europe the employment of new and advanced technologies to determine the purity and authenticity of honey has led both packers and even retailers in Europe to demand the use of testing technologies like Nuclear Magnetic Resonance for all honey they buy and sell. Concern about quality is also emerging in England, where buyers had been more concerned with price than quality. There is a shift in Europe to importing from high quality, not low priced, origins.

China’s presence in Europe in the form of direct outside investment is manifest in Italy, Spain, Ukraine, Germany, the U.K. and other nations. About 10% of Ukraine’s farmland is reported to be rented by Chinese agricultural interests. Ukraine was one of the first members of China’s new international banking entity which was created as a rival and alternative to the World Bank and the IMF. The Hungarian Beekeepers Association provided a report indicating that Ukraine’s world exports exploded from 7,500 MT in 2010 to 37,000 MT in 2014, while bee hives declined and military tensions reigned. Ukraine is now offering bulk honey which has been filtered and homogenized. The European market is noting many forms of aberrational data and patterns.

The Canadian Beekeepers report that honey imports into Canada from Spain suddenly increased and prices decreased by 40%. Similar reports have come from beekeepers in eastern Europe. Evidence is mounting that Chinese honey is being exported to Spain, Belgium, and Italy for blending and re-export as honey of European origin.

A review of Thailand’s honey trade over the past 10 years reveals a correlation between sharp increases in export and increases of imports of honey from China and its surrogates. In both Thailand and Ukraine, the number of hives and level of beekeeping activity does not justify either the quantity or quality of honey exported.

### Conclusion

It is clear that the US needs fairly traded imported honey to satisfy consumption needs. To achieve a level playing field and a stable, healthy market there must be use of more advanced technologies to assess honey purity, country of origin and authenticity. That requires establishing cooperative and collaborative relations among private laboratory scientists, government scientists, food safety scientists and academic scientists. It also requires applying advanced technological methodologies based upon a comprehensive global data base of authentic honey samples.

The number of beehives around the world has increased by 8% in the past 10 years, but the volume of honey exported internationally has increased by 61% according to information provided by Prof. Norberto Garcia, world expert on apiculture and international trade in honey.

The cumulative quantity of honey consumed and the per capita rate of consumption could quadruple, and the price of honey could double, and the impact upon individ-