International Honey Market

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For Chinese honey a Great Wall is being erected around Western Europe. For South America a Great Bridge is being built over that Wall. A reservoir of "honey" may burst.

Introduction

The International Honey Market is in urgent need to find a Point of Inflection leading to a Point of Stability. The elusive goal of balancing and integrating the incentives to produce and consume honey is a goal whose attainment appears on the horizon.

A year long study by the European Union of fraud and adulteration in honey has initially concluded that, using conventional testing methods, "19% of samples tested were non-compliant and an additional 13% were suspected of non-compliance." The preliminary report from 2237 samples (EU wide) indicated that 19% showed incongruities in**:** 1) physical – chemical parameters (2%), 2) botanical (7%) and geographical origin (2%) 3) foreign sugars (6%) 4) other aspects (not specified) (2%).

The results of a second study using the advanced nuclear magnetic resonance (NMR) methods will be announced in July 2016. The new, more powerful methodologies will most likely increase, perhaps dramatically, the findings of the initial study. European honey packers and retailers are requiring that honey they purchase passes the NMR test, which should detect adulteration with sweeteners, the use of resin technology and the extraction of immature, unripened honey.

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Concurrent with what appears to be the construction of a Great Wall around Europe retarding the flow of Chinese honey thereto, there is the creation of a Great Bridge over that Great Wall reconnecting honey from traditional suppliers of high quality pure honey from South America to Europe. Beginning in April and May, European countries began to accelerate their purchases of honey from Argentina, Mexico and other South American nations. Prices rose by about 25% over prices the U.S. market was willing to pay, after being flooded for 18 months with large quantities of terribly inexpensive honey. A Point of Inflection has appeared.

At the same time a Reservoir of Adulterated "honey" is building in other countries within the group estimated to exceed 30 nations implicated in schemes of collusion and circumvention, adulteration and various forms of transshipment. Will that reservoir break and a new surge of adulterated honey seek to find its way to the American Market? This question looms before the U.S. market.

It is analogous to the global situation whereby the U.N. reports that there are currently 65 million Displaced People who have been displaced largely because of war, environmental disasters, and economic collapse. We see the enormous stress and growing tensions among European countries regarding the influx of refugees from the middle east and north Africa. If effective enforcement mechanisms are not established, we can anticipate a similar stress in the American honey market. If effective methodologies for identifying adulterated and circumvented honey and effective enforcement mechanisms are not established, then the American honey industry will remain subject to a continuing crisis of instability and collapsing prices.

Ancient China built the Great Wall to keep "barbarians" out of the Central Kingdom, but NMR testing may keep Chinese "water honey" out of Europe.

Global Perspectives

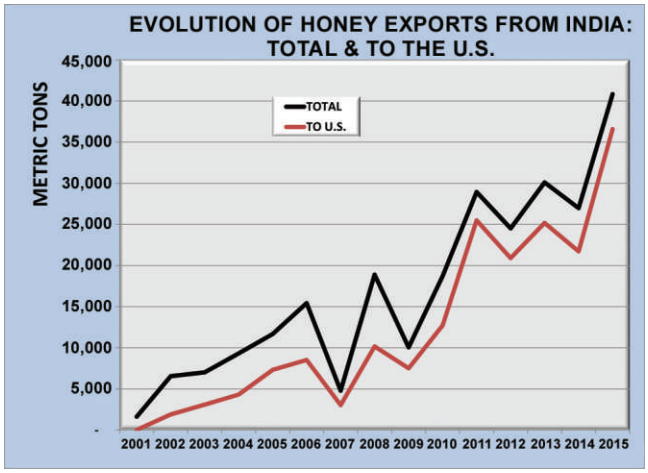
The general phenomena associated with these changes is when a given group of countries becomes suspected of circumvention through aberrational data putting them on the radar, the points of transshipment change, new players emerge and volumes decline or increase as a function of who is on or off the radar.

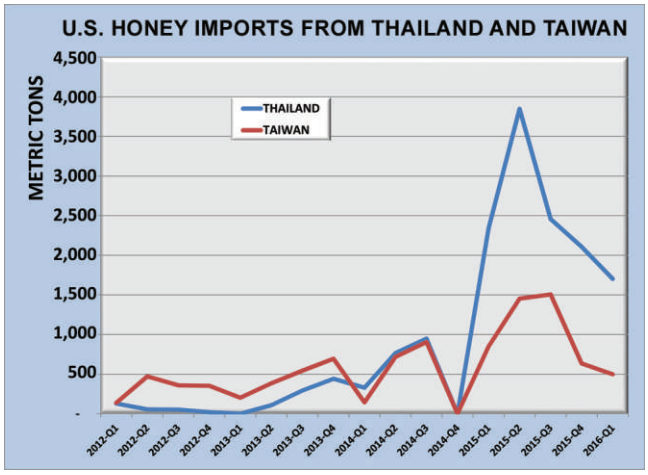
To understand the honey market in the U.S. and the terrible collapse in prices, it is imperative to have a broader, global under-

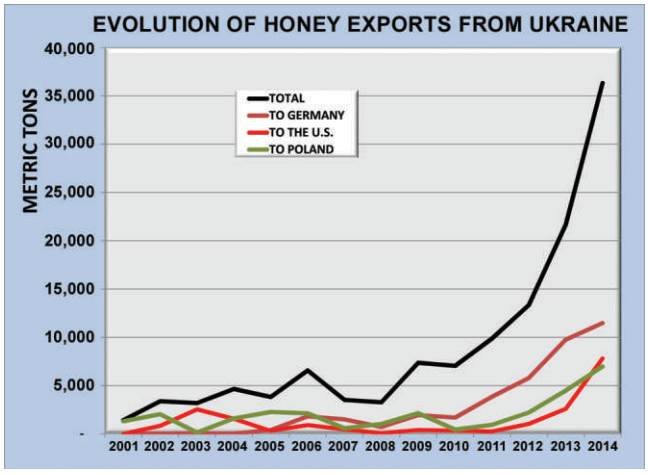
standing of the dymanics which have conditioned the collapse. Other articles including careful global analysis by apiculturists, such as Prof. N. Garcia, economists (Dr. Stan Daberkow) and scientists (Dr. C. Luellmann) are illuminating the global dynamics which have led to a honey industry sadly plagued and manipulated by numerous forms of fraud, cleverly crafted.

Previous market reports and other articles have illustrated how incongruous are the relations between honey production and honey exports in some countries. Numerous field visits by scientists, apiculturists, independent experts and members of the honey industry to various producing countries have also raised questions regarding the incongruity between the dramatic increase in export volumes and the local capacity to extract honey.

Below are some new charts which supplement those in previous market reports and show the abrupt increase in exports which occurred after 2007 and are dominated by exports to the US. Incongruities revealed in some of the charts below clearly reveal the dynamics which have disrupted and distorted the market.

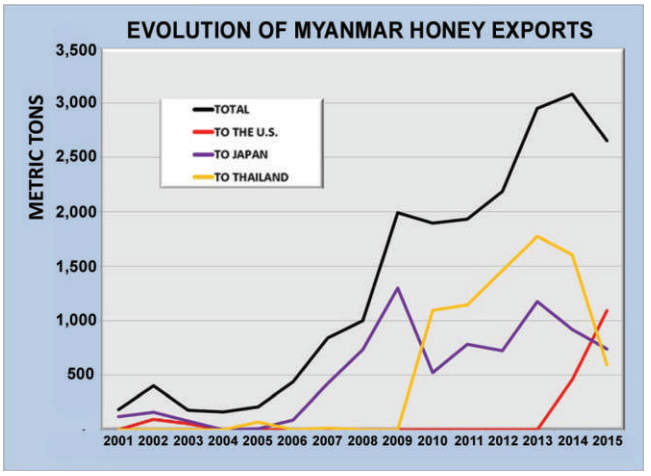






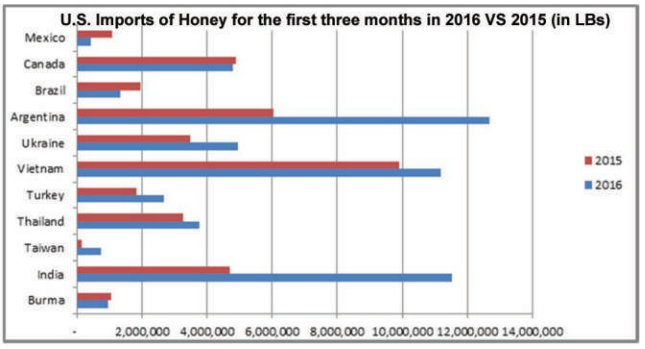
Myanmar

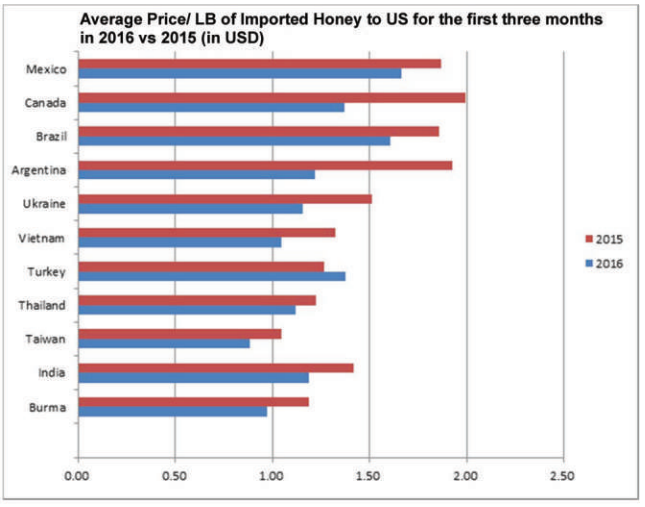
According to a news report dated March, 2016, "Myanmar has 893 registered commercial beekeepers, who produce around 4,500 metric tons of honey a year. With economic sanctions on Myanmar, only 3,500 tons are exported, to within the region." The President of the Vietnamese Beekeeping Association spoke to a convention of Myanmar beekeepers who are soliciting assistance from international organizations. It is interesting to note that the Myanmar beekeepers, though not the Myanmar honey exporters, have protested the involvement of the Chinese honey industry in Myanmar.



U.S. Honey Import Highlights for 1st Quarter 2016

Price declines and quantity increases of imports from various countries during the first quarter are highlighted in the graphs that follow:





	Price	Quantity
Argentina	-37%	110%
Brazil	-14%	-32%
Canada	-31%	-20%
India	-16%	146%
Taiwan	-15%	494%
Vietnam	-21%	13%

Argentina

The Argentine beekeepers suffered a huge backlog of exports and sales to the U.S. beginning in the first quarter of 2015 when there was a tremendous surge of exports at extremely low prices from a group of countries. The 2015/2016 crop was normal, about 70 million pounds, but that crop was bottled up along with large inventories, some in the U.S. and some in Argentina. Fortunately by the 2nd quarter of this year, the burden of old inventories was substantially reduced and the European market, for reasons cited earlier, became attractive and prices substantially rose for Argentine honey.

Brazil

As is well known, Brazil has entered a state of political and economic turmoil. The 4th quarter of 2015 brought tremendous floods, collapsing mines and flooding ports. The Brazilian honey crop is now complete and all indications are that it is short. Because of the heavy rains for the first crop and disappointment for the second crop, there has been a scarcity of offers.

Brazil's world honey exports

Honey Exports	Jan-May 2015	Jan-May 2016
Brazil	9,797,428 kgs.	11,238,756 kgs.
Av. Price	1.76/lb.	1.57/lb.

Brazil's winter has been very cold so far. Some quantity of ELA has been collected, and more ELA and White will come in September. In October the collection of major crops will begin, including LA in November. Some producers are hopeful about the amount of honey that will be produced this year. Some believe that honey production in a leap year is favorable. Prices and demand are high in Europe and the U.S.

Vietnam

An El Niño-induced drought in Vietnam has left one million people in urgent need of food assistance and two million people lacking access to drinking water, Europe's humanitarian aid agency said.

The country's worst drought in 90 years coupled with seawater intrusion into the Mekong River delta have destroyed fruit, rice and sugar crops in the world's third-largest rice exporter after India and Thailand.

"The disruption in precipitation patterns has affected the livelihoods, food security and access to safe water of the people of Vietnam," Christos Stylianides, EU commissioner for humanitarian aid and crisis management, said in a statement (South China Morning Post, June 21, 2016).

Vietnam remains one of the largest producers and exporters of rice, cashew nuts and coffee. For the first quarter, Vietnam honey exports to the US from the 2015 crop increased marginally whereas prices declined over 20% largely in response to 2 factors: 1) the collapse of the international honey market and 2) approximately half of the Vietnamese honey production is *Acacia mangium* which darkens rapidly, leaving Vietnam with exports of predominantly Amber honey. The Vietnamese honey industry is striving to have more Light Amber honey.

China

The EU Parliament voted on May 12, 2016, against granting China the status of "market economy." Ministers of the EU Parliament also pointed out that 56 of the EU's current 73 anti-dumping measures apply to imports from China.

U.S. Treasury Secretary Jacob J. Lew complained at the Strategic and Economic Dialogue held in Beijing in June, 2016, that China's huge surpluses were being sold cheaply on international markets and distorting the global economy. China's finance minister Lou Jiwei stated that international governments had cheered on China's investment spree during the global financial crisis that began in 2008, but that the government was squarely facing up to the unwanted industrial output.

China's anticipation of receiving market economy status by the end of 2016 remains likely to be frustrated until at least 2017. The outcome of the U.S. presidential election will also be a factor. The economic environment remains fraught with growing criticism of China's overproductive capacity and redundancies, leading to a glut of products from steel to solar panels to honey. That glut is the foundation and impetus leading to "dumping" of products on the world market and the resultant harm to producers in other countries. The issue of over-productive capacities and dumping is reaching an acute state in U.S.-China relations.

China, like other nations, is suffering excesses of rain, hail and other weather calamities, including flooding. Atypical night rainfalls threaten tea and other crops with mold and hail storms have damaged fields. The movements of the warm waters from the Southeastern Pacific westward caused El Nino's heavy rains in North China this spring and summer season, as well as South America's floods in the 4th quarter of 2015. El Nino also affected South America with floods in the 4th quarter of 2015 and the 1st quarter of 2016. As those warm currents resulted in El Nino the sister phenomena of La Nina occurred, bringing severe droughts to other regions.

NMR testing allows detection of immature honey, which is the standard model of production in China which has been in place for decades. Leading American beekeepers were invited to China twenty years ago and witnessed the Chinese extract their honey the next day after it came in. This saves on the need for extra honey storage supers, but the downside is that the moisture is high. The bees don't have a chance to "cure" it down to proper levels. The honey is picked up every day from the beekeeper and taken to a honey packing plant where it is dehydrated to acceptable moisture levels for export.

The FDA ruling, reported in the International Honey Report found in the April 2016 issue of the ABJ, bars the use of resin technology on any product labelled "honey." This ruling, combined with new methods to detect the use of resin technology and the production model of "water honey" makes the issue of adulteration of Chinese honey come to the forefront of concern for the international honey industry. Analysis through a new and more sophisticated set of methodologies based on a more inclusive global data base is thus rendered all that more significant for our industry.

The patterns of circumvention of Chinese honey through third countries are fascinating to watch. It is widely suspected that businessmen from more than 30 nations have been involved in circumvention and transshipment, many with resin technology implicated. The general pattern for shifting centers of transshipment are found within 3 groups: 1) China's geographical neighbors or near neighbors, 2) countries in which China has vast economic investments, including in infrastructure, agriculture and industry, and 3) CIS nations adjacent to Russia and former republics.

If China were to receive market economy status and the current prohibitively high anti-dumping rates on honey were dramatically reduced, how would China's honey exporters compete with all the newly emerged and low priced honey exporting nations? Or how would those nations compete with China? The landscape of international honey exporters would most likely change profoundly. In 2015 China's direct outside investment reached historically high levels. In 2016 the $43 billion purchase of the Swiss seed company Syngenta by a Chinese company was announced. China's investments include agricultural interests and the international honey industry.

Ultimately, through 1) enforcement and advanced, thorough and expert traceability regimes, and 2) the weight of larger geopolitical interests, China will get its honey house in order.

Honey Science

Global cooperation and a global data base of scientifically drawn and authenticated samples are needed to avoid the false positives which can cause as much distress and commercial harm as false negatives can. Some test methodologies developed during the past decade relied upon over 50% of samples from Chinese government laboratories. More stringent, comprehensive and authentic sampling of the global diversity of honey and the many modalities affecting chemical profiles of honey are imperative. Since it is important for scientific, legal and commercial reasons that all technologies employed in analysis of adulteration avoid both false positives and false negatives, great efforts are being made to establish a global data base of authentic honey.

The Joint Research Centre of the European Commission collected commercial honey samples from retail shelves and commercial lots in Europe during June and July, 2015, and they will more fully report their findings in July 2016. Testing will include pollen analysis, sugar spectrum and carbon isotope testing for the addition of syrups from C4 plants such as corn or sugar cane (EA-IRMS).

In the past year more extensive collaborative efforts than have ever existed before to bring advanced solid and comprehensive scientific analysis to the honey industry have emerged. This involves private, government and academic laboratories representing fields of chemistry, apiculture, food safety, food security, and food and nutrition. A recent article, "Authentic Food" stresses why. The article summarizes its important analysis as follows: "Authentic food is growing in popularity with consumers. In a heavily industrialized market, a regional, single-source and/or specially manufactured product is increasingly becoming a guarantor of greater value. In the premium segment in particular, economically motivated "food fraud" can reap huge profits. Products affected include wines, honey and olive oil, where designations of origin and quality considerably increase value, and continue to be counterfeited, even to the present day. Honey, a product whose name has been synonymous with an all-natural, healthy food for thousands of years, is particularly affected: honey traded on the global market is adulterated with industrial sugar syrup – thus short-changing packers, distributors and consumers alike" (Prof. Dr. Stephan Schwarzinger, Prof. Dr. Paul Rosch, Dr. Güdrun Beckh, Dr. Cord Lüllmann, Arne Dübecke, et al., "Authentic food").

Conclusion

The need for a set of scientifically sound and sophisticated methodologies to detect adulteration in its manifold forms has become manifest as is the imperative to effectively enforce laws covering international commerce.

At the same time American beekeepers must find means to creatively and more effectively market honeys produced by local American Beekeepers whose work serves not only the honey industry but broader strategic agricultural and ecological interests.