



INTERNATIONAL HONEY MARKET

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To the left, the soccer player fakes to draw in the defense, but to the open right he moves.

The Market and Global Honey Supply
The plunge in the international prices for honey persists. Beekeepers remain caught in the dilemma of stagnant and low prices while the costs of production increase. As reported previously, the Canadian Honey Council wrote: “Unfortunately, the cost of production has not decreased ...prices are decreasing and expenses are increasing.”

In the August issue of the *American Bee Journal*, Prof. Norberto Garcia analyzed the underlying causes for the decline of honey prices and provided extensive and compelling data showing the rise of global exports contrasted with the relatively stable worldwide number of beehives. U.S. beekeepers surveyed in 2016 reported los-

ing 44% of their colonies over the course of the year. The gaps between acceptable and normal colony losses and actual losses have grown from 37% in 2010 to 44% in 2016. Dr. Jeff Pettis of the USDA explains that the high rate of loss over the entire year means that beekeepers are working overtime to constantly replace their losses.

Adding data for the productivity per hive as a third variable to Prof. Garcia’s original chart provides a still more revealing and vivid analysis of the phenomena plaguing the entire international honey market. Productivity per hive in the world’s most mature, sophisticated and scientifically advanced nations practicing highly scientific beekeeping practices has steadily eroded during the past two decades due to a variety of factors including Colony Collapse Disorder, mites, reduction of lands for forage and open spaces, and the use of neo-nicotinoids. The reasons for the decline in productivity have been discussed in numerous apicultural articles. Honey yield per colony declined over the past

two decades from 150 pounds/hive to 50 pounds per hive in the U.S., according to the largest and most experienced commercial beekeepers, a decline of almost 65%.

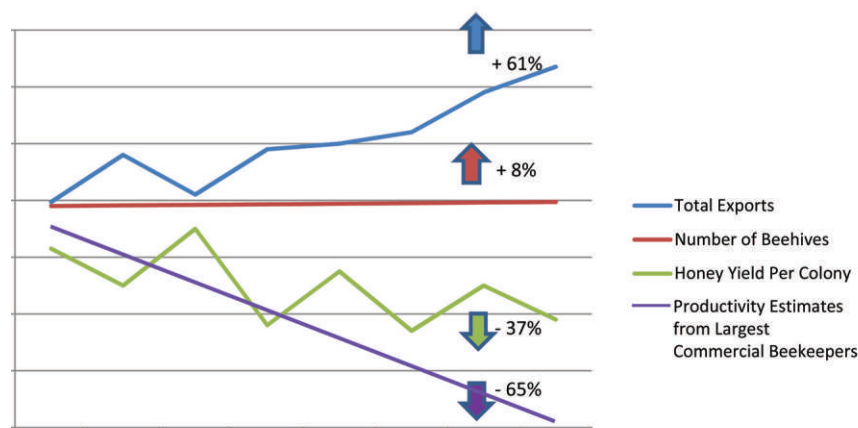
The chart below shows three fundamental variables, honey exports, bee colonies and yields per colony, based on data from Prof. N. Garcia, Dr. S. Daberkow and leading U.S. beekeepers. It indicates the great magnitude of the problems facing the international honey industry. The use of 1) adulterants like rice, cane and beet sugars, 2) harvesting immature honey (water honey), 3) ultrafiltration and 4) resin technology have all played major roles in the startling and severe anomalies presented below, i.e. dramatically increasing volumes of honey exports vs. slightly increased hive numbers with sharply decreasing colony yields. The bizarre anomaly represented in the chart below illustrates, to quote Shakespeare, that “Something is rotten in the State of Denmark.”

These problems have been compounded by the use of “continuous feeding”

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Chart: Three Variables: Honey Exports, Bee Hives, Productivity per Hive



U.S. HONEY IMPORTS DURING THE FIRST SEMESTERS OF 2015 AND 2016



Source: Prepared by Prof. N. Garcia, UNCOM Trade Data

of beehives with sugar. A recent report from Australia by Jodie Goldsworthy for Apimondia describes an elaborate auto sugar feeding system offered by Chinese beekeeping supply companies which pumps sugar syrup into the hives every 2-3 days, after which sugar syrup which they refer to as “nectar” is extracted from the hive. This system could explain high volumes of honey exported by some countries and the problem of honey adulteration within China.

When this is compounded by Chinese practices of extraction at high moisture levels, both the glut of honey and the collapse of prices in the world market can be explained. This phenomenon is devastating to traditional beekeepers worldwide, most of whom are facing increasing costs of production. We must note that the process of “continuous feeding” of hives is a technique being adopted in other countries, including the U.S.

The anomalies described above are of such a magnitude to require elaborate schemes, only some of which have been exposed and subjected to legal processes. Those involved are always shifting focus from one group of exporting countries to keep open the door for other exporting countries and other exporters which distorts the market and leads to a plunge in prices. While there are many cunning

people operating on several levels, such schemes inevitably unravel. Masks are removed as ambitions clash and tensions erupt. There have clearly been attempts to focus attention upon certain groups of countries in order to divert attention from other groups. Those attempts are in the mode “fake left to go right.” While the incentive to produce pure honey is eroding in many traditional and mature honey-producing nations, there are those who benefit from fraudulent schemes.

U.S. Import Patterns

As we can see by the chart of U.S. Honey Imports, U.S. imports from Ukraine, Thailand and Taiwan declined in the first 6 months of 2016 to 9 million lbs., 6.6 million lbs. and 2.5 million lbs., respectively. Imports from Turkey for the 1st half of the year were about 5 million lbs.. These countries were a focus of concern regarding quality, transshipment and authenticity in the past year.

Table 1

U.S. Imports	6 mos. 2016	2015	2014
India	29,301,852 lbs.	77,131,181 lbs.	43,560,835 lbs.
Vietnam	34,891,159 lbs.	70,655,388 lbs.	93,579,915 lbs.

Source: National Honey Reports

Imports from Argentina were stable and from Brazil were increasing, reflecting the strong demand for organic honey.

We can see trends for yearly imports from Vietnam and India in pounds as shown in Table 1.

Total U.S. imports have been increasing year by year, from about 113,000 metric tons (249,119,000 lbs.) in 2010 to 175,000 metric tons (385,805,000 lbs.) in 2015, an average increase of 13,000 metric tons (28,659,800 lbs.) per year.

Argentina

Europe increased honey purchases from Argentina by 30% in early 2016. Argentina exported about 47,000 metric tons (103,600,000 lbs.) to the world by the end of July 2016, with about 28,500,000 lbs. imported by the U.S. from January-June. Additional quantities are in the hands of the beekeepers.

A decisive factor that grieved beekeepers earlier this year was heavy flooding that

caused them to abandon hives, leading to an estimated reduction of 20-30% of their colonies. This fall a La Niña is expected to develop which generally means less rain and a lower honey crop. The Argentine government changed in late 2015 and more stable and friendly international trade practices are being implemented.

Brazil

As of late August, the organic crop is beginning in the Northeast, with strong competition for supply, firm demand and rising prices. Very little honey is available. Weather conditions are dry in Southern Brazil, where the spring crop looks promising. Brazil's world exports in 2016 for the January to July period declined significantly compared to the same period in 2015, with about 19,000,000 lbs. imported by the USA (down 25%) and 2,660,000 lbs. exported to Germany (down 42%).

Organic production was about 20,000 tons (about 44,000,000 lbs.) in 2015, during which time the country experienced one of the strongest El Nino events which brought strong rains and floods to the southern and central regions. In that year, 65% of exports went to the USA and 28% to Europe.

Concerns regarding honey from Uruguay and Argentina making its way illegally across the border were vigorously investigated by the Brazilian honey industry and Brazilian authorities, and the problem was reported to be contained and limited to 1 or 2 parties. There is strong commitment to maintaining the high reputation that Brazil has in Europe and in the U.S.

The Brazilian organic honey industry hopes that prices for conventional, authentic honey will recover, recognizing that it is unhealthy if the price gap between conventional and organic honey is excessively wide and continuously increasing.

Canada

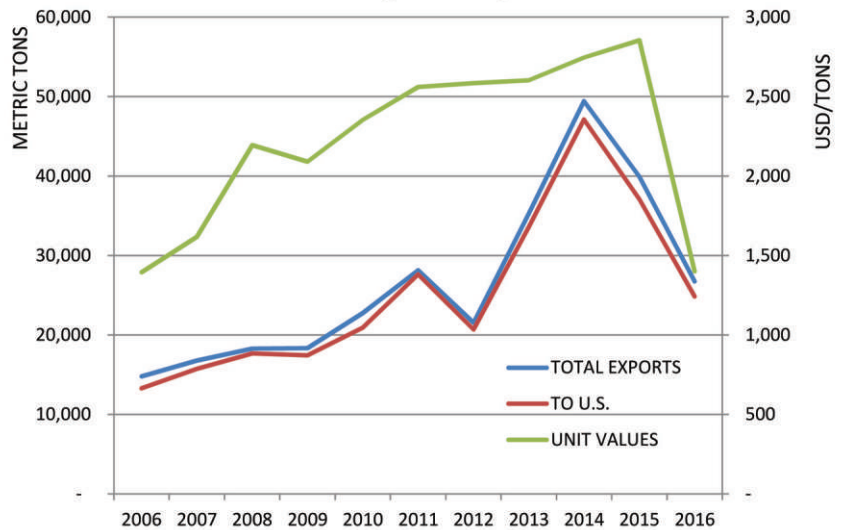
A late crop is expected due to high moisture conditions in a lot of areas, and volumes are forecasted to be average to slightly above average. Reports are that low prices are caused by circumvented imports. Canadian beekeepers have reported imports of "Spanish" honey that were most likely blends of unknown origin, possibly including Chinese honey.

U.S. imports of Canadian honey reached 10,000,000 lbs. in the first half of 2016, exceeding the imports in the first half of 2015. In the 3rd quarter of 2016, significant carryover was being held from the 2015 crop. That and a weak Canadian Dollar have made prices plunge to levels about 55% lower than those of two years ago.

India

Indian exporters have reported that their 2016 crop was between 75,000-85,000 metric tons. The main crop was mustard, with a smaller crop of polyflora and a tiny crop of acacia. Some exporters claim that mustard honey, produced January to

Vietnam Honey World Exports



May, represents 90% of the total crop. White, ELA and Light Amber colors are exported to the U.S. The 77% increase in U.S. import volume in 2015 over 2014, reaching 77,000,000 lbs., was in the Light Amber and ELA colors, while white colors were reduced from 25% to 11% of total imports.

Domestic honey consumption is reported to be between 10,000-15,000 metric tons, reflecting lack of consumer interest in honey by India's large population, which must have been the underlying reason for the immature state of India's honey industry 15 years ago.

Some Indian honey experts have attributed the decline in India's prices to a large Argentine crop carryover of 100,000 metric tons from 2014/2015. Argentina did have a substantial carryover but the reason Argentina dropped prices was the increasing competition from Thailand, Taiwan, Ukraine, Turkey and India. The situation for Indian beekeepers, like that for Argentine, Canadian, Vietnamese and American beekeepers, is that the incentive to produce honey is eroding and will be profoundly jeopardized if current market declines persist.

The government's substantial investments to develop the Indian beekeeping industry will require a substantial recovery in honey prices for that investment to be justified.

The rise of India to become such a dominant and diverse supplier of honey to the U.S. market over the past 15 years is a startling and complex phenomenon which has included both the development of a previously immature industry and, unfortunately, well-documented problems of transshipment, circumvention and blending of Chinese honey, which was part of the Seattle scandal that led to "Honeygate." India, like Vietnam, has one international honey market, the U.S., and will benefit from producing the qualities and flavors needed in Japan and Europe.

An independent academic scientific study of Indian honey production patterns and floral sources is needed. Such a study would enhance India's status in the international market, including Europe and Japan.

Vietnam

Large U.S. import volumes of Vietnamese honey reflect the increasing demand for industrial dark honey, for which Vietnam plays an important role. In the last 5 years the production of quantity has been stressed over quality, resulting in color instability as Light Amber (85mm. maximum color) becomes Amber (105mm) and Amber (110 mm) becomes Dark Amber (135mm) in a short period of time. The darkening of color is a natural phenomenon related to the incorporation of honey from the botanical source *Acacia mangium*. Prior to the use of *A. mangium*, there was a healthy market for Light Amber predominantly from rubber, and a little ELA from litchee, coffee and cashew floral sources. In contrast to other Asian exporters, such as India, Thailand and Indonesia, almost no white honey has been offered or sold from Vietnam in the past two decades.

Amid the collapse of Vietnamese honey prices in 2016, down about 50% from their highs of early 2015, there have been two seizures of honey shipments by U.S. Customs and two FDA import alerts issued by the FDA in recent months. The Vietnamese Beekeeping Association investigated the case of the honey seized by U.S. Customs and expelled the exporting company, owned by a citizen of Taiwan, from their association.

Europe

We also must note that a second report on honey adulteration due in the 4th quarter, based on the use of EA-IRMS and LC-IRMS tests for adulteration with sweeteners, is expected to show more adulteration than the first report made public in Europe earlier this year. The still more sophisticated

Nuclear Magnetic Resonance (NMR) method, which European retailers are increasingly demanding for honey, was not applied.

Currency swings following the “Brexit” vote in Britain and negative interest rates are creating financial challenges and uncertainties for some European buyers functioning in a global economy of protracted stagnation.

European honey traders have been offering, at low prices, honey of various origins to the U.S. and Canada, as the awareness of transshipment, adulteration and circumvention has become much more acute in the European market. This phenomenon is creating for Chinese honey a Great Wall around Europe. Where will the bottled up Chinese honey go and in what forms will it emerge are questions deeply troubling responsible members of the industry. Exports from China to Europe dropped in June, 2016.

Climate Perspectives

2016 is on pace to break previous weather records, with an average temperature increase of 2.3 degrees F. above the average in 1880. As reported in the *New York Times* and in *Nature* “July [2016] wasn’t just hot — it was the hottest month ever recorded, according to NASA. And this year is likely to be the hottest year on record. Fourteen of the 15 hottest years have occurred since 2000, as heat waves have become more frequent, more intense and longer lasting. A study in the journal *Nature* on Climate Change last year found that three of every four daily heat extremes can be tied to global warming (Heidi Cullen, Aug. 20, 2016, *New York Times*.)” If nothing is done to slow climate change, scientists predict that the increasing number of 100 degree days could make outdoor activities unbearable by the end of the century.

In May 2016, heat records were broken in India with temperatures over 116 degrees F. Forest fires are degrading India’s limited forests. Other areas such as Louisiana have been hit with devastating floods. Fires in California affected forests and residential areas in the summer. Wells are being dug deeper and deeper in California due to the drought, depleting irreplaceable geological water reserves.

As reported by John Abraham, August 10, 2016, in *The Guardian*, scientists are measuring the increasing temperatures in the atmosphere and the rising sea levels (measured by tidal gauges), caused by melting ice, especially from glaciers, and the increase of the ocean temperatures. Satellites are gathering data yearly, allowing scientists to make long-range predictions.

Forecasters are predicting one of the strongest La Niña patterns for this autumn in the US, with a dry, warm south, cool northwest, and a wet eastern region. La Niña conditions for South America bring the threat of drought for the upcoming spring and summer. EL Niño brought torrential rains to Brazil during the 2015 flowering period of the spring crop of organic honey. In Argentina, beehives were lost to

floods. Neither beekeepers nor agricultural interests in general can ignore the changes in weather patterns.

The growing disparities in temperatures among land, sea and atmosphere render phenomena such as La Nina and El Nino more volatile and intense. The frequency, unpredictability and destructiveness of global weather disasters jeopardize the adequacy of the food supply. When the stresses upon both global bee populations and ecological systems are also considered, food security becomes as great a concern as food safety.

Trends in Food Marketing

Recently we attended a conference sponsored by a major international food company regarding marketing of a wide diversity of foods. There are food trends emerging which are driven by consumer preferences rather than corporate agendas. The imperative is to design and market foods which capture a new generation of consumers, not merely to sustain legacy consumption patterns. There is growing interest in today’s emerging demographics in 1) natural foods, 2) organic foods, 3) local foods, 4) foods with a “health halo,” 5) varietal, 6) foods to which nothing has been added nor taken away, 7) non-GMO foods, and 8) foods which are ecologically friendly.

With over 90% of the American population living in urban and suburban settings, the lure of nature and its beauty and freshness are strong. The integration of the production of high quality, qualitative diversity, healthy and natural foods with the beauty of production itself and the diversity of modes of consumption are increasingly demanded by consumers. All of those trends are suitable to marketing of pure honey, provided the skills at creative marketing are applied.

This report describes the grave dilemmas facing the honey market. But it also points to the positive potentials which depend upon overcoming the threats and developing the market with renewed creativity.

Despite stresses in the global economy, prolonged economic stagnation, low and even negative interests rates, wars and refugee crises, people cannot suspend eating, waiting for economic re-vitalization. To this necessity the honey industry must add the perception of romance, flavor, beauty, diversity and ecological value.