

# INTERNATIONAL HONEY MARKET

by RON PHIPPS

## Introduction

As this report is being composed at the mid-point of the year, a sense of crisis and gloom has engulfed beekeepers throughout North America and Europe. The Masters of Market Manipulation, or as Jacques Combes, independent consultant to French honey producers (SPMF), a statistician who has played a role in France similar to that of Dr. Stan Daberkow in the U.S., has aptly expressed it, the Masters of Market “Mystification,” have succeeded in orchestrating a flood of adulterated honey and the continued collapse of honey prices to levels far below the costs of production of authentic honey.

In the first quarter of this year we were invited to speak before the French Institute of Honey Producers in Bordeaux, France, the Joint Research Centre (JRC) and the European Commission in Belgium. The generic theme of the presentations was the prevalence of multiple modern modes of adulteration of honey and their development, and their impact upon global food security, pollinators and ecological sustainability.

The European Commission has played a pivotal role by publishing the JRC report on honey, revealing that 47% of honey samples drawn from many countries exporting into Europe are suspected of adulteration. This result, we note, did not involve investigating those parameters that expose the utilization of illicit modern modes of honey production. It was a great privilege to visit the testing facility with Joël Schiro, President of the SPMF, and be hosted by leading experts whose advanced knowledge and scientific insight are invaluable to achieving authenticity.

## European honey directive

There is a new European Honey Directive of cardinal significance for the quest for authenticity, which was published in May 2024. [[Directive - EU - 2024/1438 - EN - EUR-Lex \(europa.eu\)](#)] Salient features of this directive include:

1. Countries of origin of honey harvesting must appear on the label in the principal field of vision, in the descending order of quantities;
2. The Commission must adopt implementing acts laying down methods of analysis to detect adulterated honey;
3. They explicitly include among stakeholders academia, universities, research institutes and other scientific organizations. This is to mobilize the most comprehensive and advanced scientific knowledge and make sure it is provided by independent scientific researchers;
4. Requirements will include **“a Union traceability system, tracing the honey back to the producer or importer.”**

We note that in the case of honey, a traceability system is effective if, but only if, the traceability includes specification of the methods of production to eliminate improper methods associated with production of adulterated honey. As one insightful authority has expressed it, “We are overcoming any lags between the scientific developments needed for official controls.” Europe is steadily building up effective nets to capture adulterated honey in all its contemporary modes.

There is a willingness and capacity to proactively create collaboration among different relevant governmental agencies, academic and research entities, as well as legal experts in national and international food fraud law. This may also include those involved with ecological sustainability and food security.

Analysis of the honey market in Europe reflected falling honey sales during 2020-2023 ranging from 3-9%, depending on the country. Reasons given included declining quality of products offered to consumers.

The conference in Bordeaux was held next to a river. The ancient Greek philosopher Heraclitus said that you can never step into the same river twice. That means that the international honey industry and the modes of deception are constantly changing and we must be alert to them. In the days before we arrived in France there were floods in Bordeaux that caused evacuations from hospitals. Similarly the honey market has suffered from a flood of adulterated honey.



Alain Maquet and Ron Phipps at the Joint Research Centre

### **Honey prices**

Offers for new crop Midwest U.S. honey were in the range of \$1.65/lb. in June, considerably less than in late 2023. U.S. honey prices averaged \$2.52/lb. in 2023 (NASS 3-15-2024) and production was up 11% to 139 million pounds, still far below historic norms and potentialities if beekeepers are fairly incentivized.

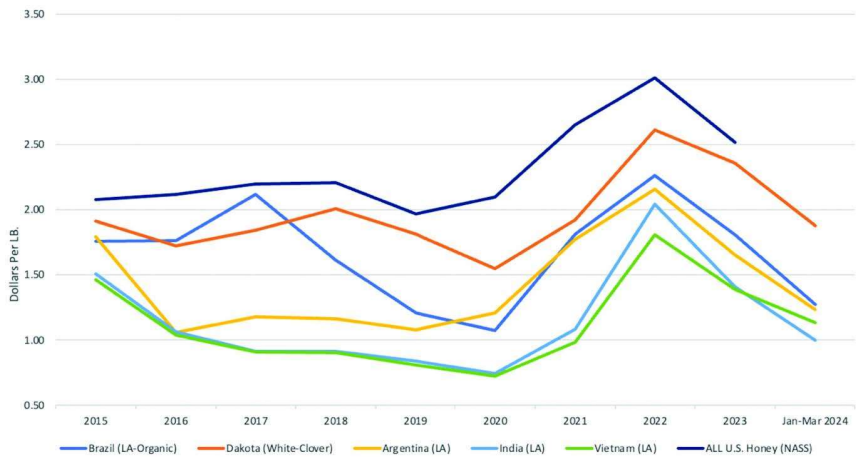
Charts 1 and 2 illustrate the devastating collapse of prices for honey imported into the U.S. Graphs prepared by Dr. Stan Daberkow, Economist Emeritus of the USDA, reflect the devastation of prices currently facing the beekeepers. The collapse began in 2016. It was temporarily and marginally altered after the filing of the antidumping petition in 2021, but by April 2024, prices for U.S. and imported honey were getting close to levels of 2020, before the antidumping order was filed.

Dr. Daberkow is preparing a chart to contrast the rising general inflation rates, rising food inflation and declining honey prices over the past years. This occurs in a context in which there are high annual colony losses and declines in hive productivity, and the cost of production of authentic honey has soared. This anomaly is in contrast to an explosion of imports of “honey” and the protracted de-incentivization of beekeepers to produce honey.

**Chart 1: Annual Prices Paid to U.S. Beekeepers and Importers for Selected Types of Honey, 2015 — Jan-Mar 2023**

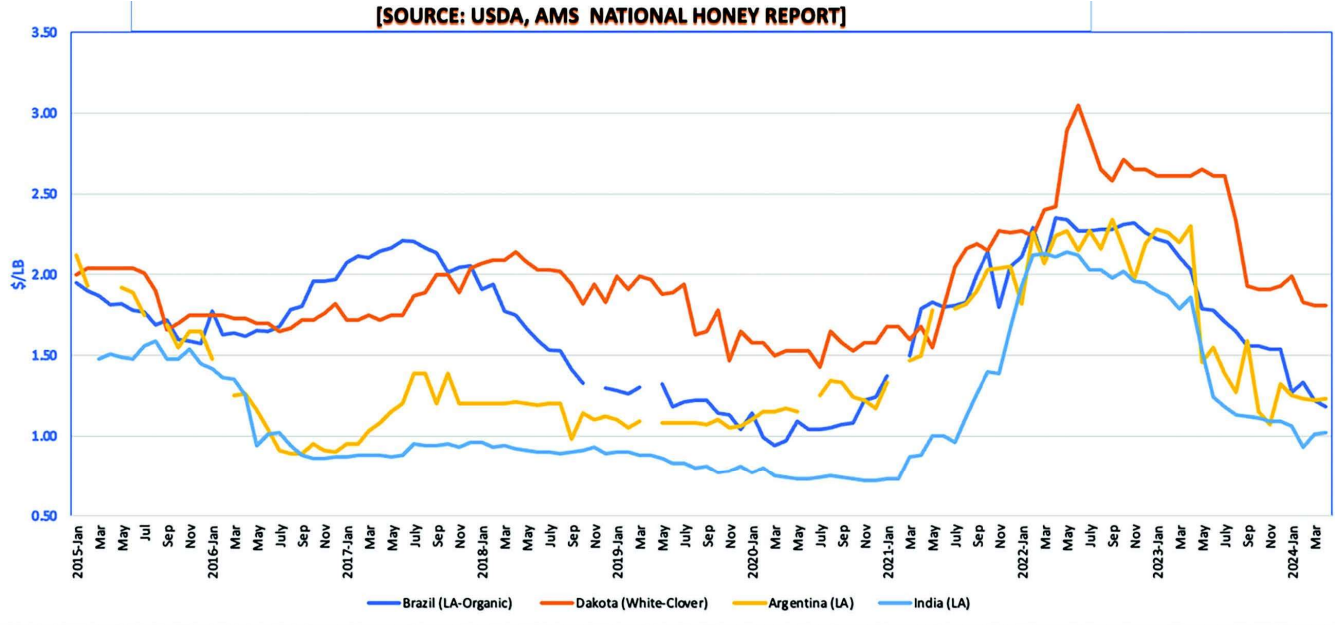
Prepared by S. Daberkow

[SOURCE: USDA, AMS, NATIONAL HONEY REPORT & NASS HONEY Report]



**Chart 2: Monthly Prices Paid to U.S. Beekeepers and Importers for Selected Types of Honey, Jan 2015 — Apr 2024**

[SOURCE: USDA, AMS, NATIONAL HONEY REPORT]



Prepared by S. Daberkow

As pointed out in previous reports, the antidumping duty rates in the preliminary determination were illogically low for India, and the data provided by Indian exporters and other parties was very superficial. Extensive and meticulous data, in contrast, was provided by Nexco in Argentina.

The most startling statistics reveal that the quantities of imported Indian honey have continued to increase to about 150,000,000 pounds in 2023 and the average prices of Indian honey plunged from over \$1.20/lb. in 2022 to \$0.68/lb. FOB in April 2024.

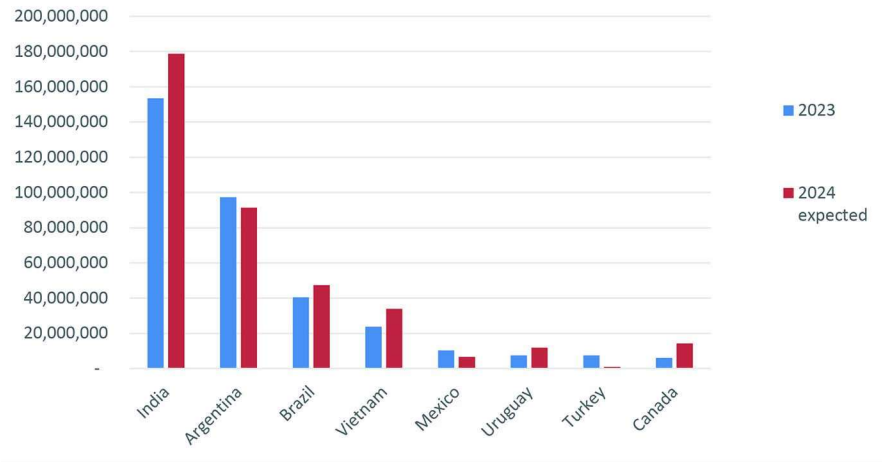
The stark reality at present is that high antidumping duty rates on Vietnamese honey have caused a dramatic reduction in the quantity of those honey imports. Extraordinarily and inexplicably low antidumping rates on India allow buyers of Indian honey to compensate for any decline in volumes from Vietnam.

India, a semi-tropical country, is exporting large amounts of Extra Light Amber, or ELA (49.3 million pounds), White (11.9 million pounds), and “Organic” honey, and has been the progenitor of the collapse of prices from Argentina and other countries. Low prices, combined with the huge quantities from India, have been the central cause of the paralysis of U.S. honey sales and the conscious offering to U.S. beekeepers by U.S. buyers of low prices that are known to be below the cost of production to beekeepers. For example, in California big packers say they won’t pay more than \$1.60/lb. for U.S. honey and claim they can buy all the White and ELA honey they need from India and Argentina.

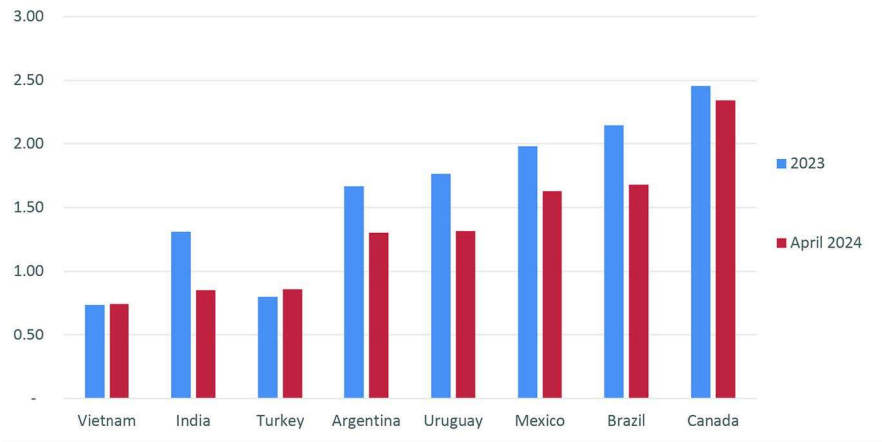
As one of the largest honey producers commented, “My grandfather told us never sell any honey until the honey is in the drum.” That maxim does not apply to manufactured “honey” created by modern modes of economically motivated adulteration (EMA).

In February 2024, the Indian government introduced a minimum FOB export price (MEP) of \$2,000/metric ton (\$0.91/lb.) for honey exported from India. As recently as April 2024, the import values for Indian honey were \$1,500/metric ton (\$0.68/lb.) for Extra Light Amber (U.S. Customs Statistics), so the enforcement of this new regulation seems non-existent.

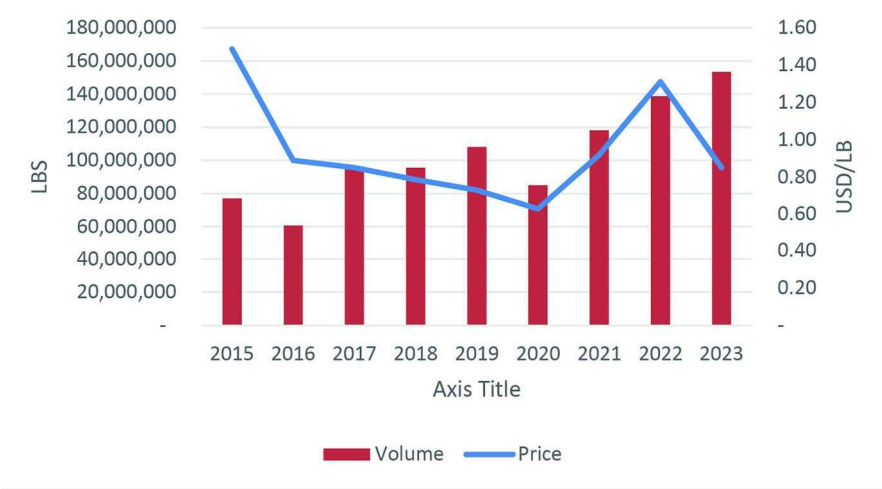
**Chart 3: Volume of Honey Imported to U.S. in Pounds**  
**Source: U.S. Customs and Border Protection (National Honey Report)**



**Chart 4: Average Import Price Per Pound by Countries**  
**Source: U.S. Customs and Border Protection (National Honey Report)**



**Chart 5: Indian Honey Imports Price and Volume Chart**  
**Source: U.S. Customs and Border Protection (National Honey Report)**



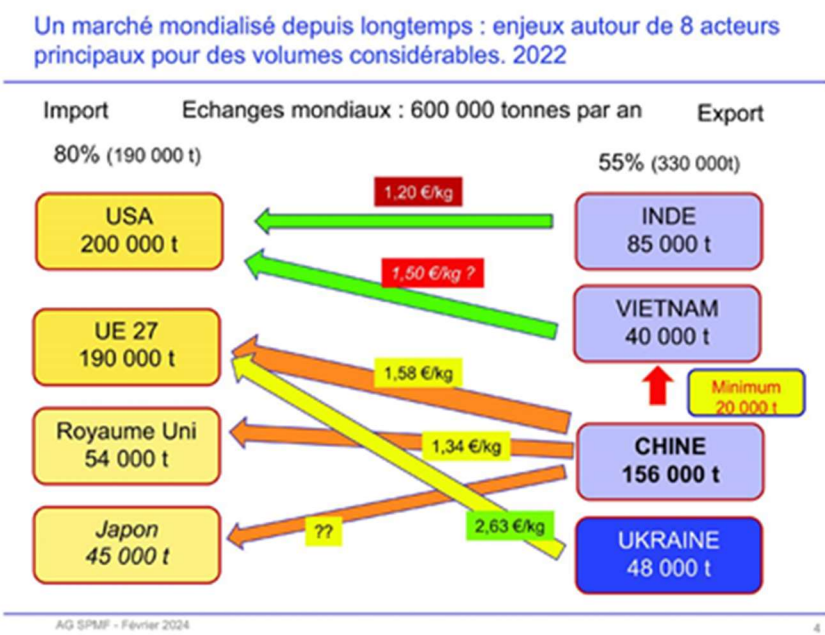
Predictably, some major importers promised to maintain the old prices despite force majeure conditions if even more quantities of Indian honey were purchased. After the official announcement it was reported that additional quantities were offered and sold from India at prices below the MEP.

An analogous situation occurred in the 1990s during the Suspension Agreement of the antidumping duties on Chinese honey. That agreement set minimum prices which were altered every three months according to data on world honey prices. Nonetheless, companies were receiving offers and concluding business at levels far below the minimum prices. Chinese exporters would blatantly say, pay us the minimum price and we will wire a rebate to any international bank. Such schemes may undercut the minimum prices of the Indian government.

China has played a similar role in Europe as India plays in the U.S. Of the samples collected in the EU during the recent collection program conducted in 2022 by the JRC, Chinese samples were the most likely to be judged suspicious of adulteration.

Chart 6 illustrates the market behavior of China in Europe with 156,000 tons (343,917,600 pounds) exported in 2022. Europe’s imports of honey from India and Vietnam are negligible. Since Brexit, the U.K. honey imports are being tracked separately from Europe as a whole and were 54,000 tons in 2022. However, the plight of U.K. beekeepers, as cited by the Honey Authenticity Project led by Lynne Ingram, reveals the same type of crisis in the U.K. as that faced by North American beekeepers. The Chinese honey average export price to the U.K. is EU1.34/kg. or EU0.60/lb. (\$0.65/lb.).

Chart 6 Global honey markets (Royaume Uni = United Kingdom)



Source: PowerPoint by Jacques Combes, Independent Consultant to SPMF

“Since 2016, China closed the door to imports of honey from Europe on the basis of the risk of importing ‘American foulbrood.’ If Europe were to apply the principle of reciprocity, Chinese ‘honey,’ which, unless manipulated using mysterious and in any case unauthorised techniques, contains as many American foulbrood spores as any other honey on the planet, would no longer be able to enter Europe.”(SPMF report).

The SPMF is calling on the EU to ban Chinese honey from the European import market. That demand is less against China as a nation and more against the Chinese modes of producing and exporting adulterated, cheap honey in order to dominate and control the market.



A confluence of the global COVID pandemic, originating in China in 2019, and global climate crises, has provoked destruction of supply chains and led to a general inflation. The aberration of the collapse of honey prices to beekeepers is explicable only by the prevalence of massive amounts of adulterated honey.

Average annual U.S. import prices for organic honey have also collapsed since 2022 (prices/lb.).

U.S. Import Prices per Pound of Organic Honey 2021-2024

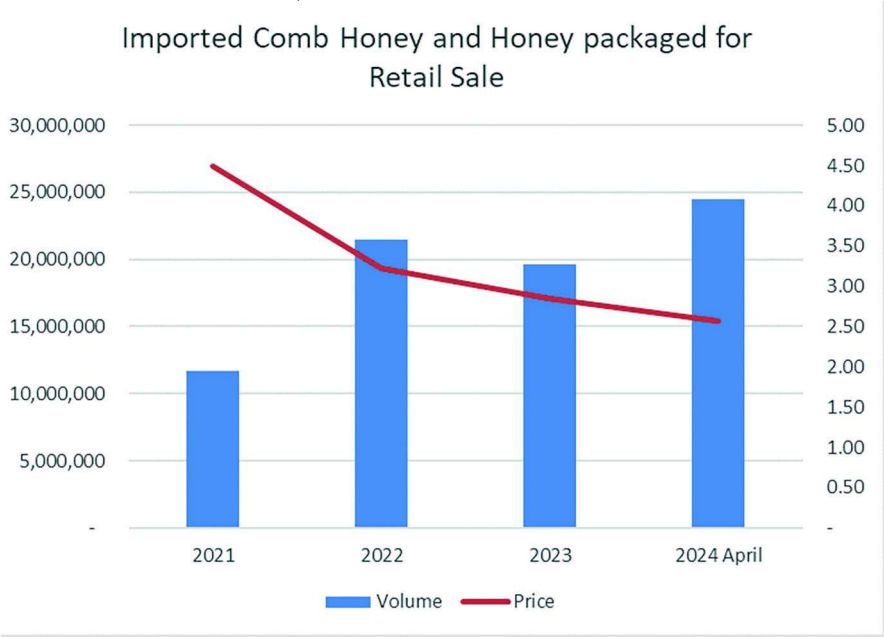
<u>Country</u>	<u>2021</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>
Brazil	\$1.90	\$2.29	\$1.68	\$1.34
India	\$1.09	\$1.55	\$1.13	\$0.82

In 2023 Organic Brazilian honey imports were 37 million pounds; Indian Organic honey imports were 6.5 million pounds.

The loophole for highly filtered honey

Imported comb and retail packed honey is not in the scope of the 2021 antidumping order. Industry observers pointed out a dramatic increase in the volume of imports in this category between January and April 2024, reaching 8.1 million pounds. Total imports in this category were 19.6 million pounds for 12 months of 2023. The average FOB price of Indian honey in this category was \$2.20/lb. over those four months.

Chart 7: Imported Comb Honey and Honey packaged for Retail sale  
(2024 is estimated for 12 months based on Jan-April volume)



In recent months alarm has grown that the use of a tariff category for “Comb and Retail” is being used to import highly filtered honey in such a way as to circumvent duties in the current antidumping order. Legal advisors had warned that this could be a consequence of the narrow scope of the original antidumping order. Honey packers who have fought the antidumping order are now alarmed because this potentially opens the door to exporters sending filtered honey directly to food service companies and major retailers, without antidumping duties. If the beekeepers succeed in dramatically increasing the duties on Indian and Vietnamese honey, and concurrently affirm the findings

of critical circumstances, then those who are importing under this category will achieve a more dramatic advantage. This development may affirmatively answer the question in the classic Rodgers and Hammerstein musical, “Why can’t the farmers and the ranchers be friends?”

**Multiple modern modes of honey adulteration**

The President of the Provence beekeepers’ association pointed out that France was the first country to criticize China’s use of illicit modes of honey production in 1998. A document was issued at that time by the French beekeepers.

China, which is the epicenter of global food adulteration, is objecting to the principled position of Apimondia and the U.S. Pharmacopeia (USP) with respect to the definition of honey. China is seeking to control international standards, including the ISO, with a proposal that the standards allow China to continue economic dominance based upon low prices that are possible only through the export of low quality/adulterated products. The value of standards, history shows, depends upon the validity and relevance to the real world of those standards.

The French Institute and the European Commission are clearly opposed to autocratic manipulation and control of standards. The attempt to suppress dissent and democratic processes is the antithesis of what is needed to overcome the problem of global adulteration of honey.

Walter Haefeker, President of the German beekeeping association, compared China’s large honey processing factories to modern European breweries. He insightfully made the analogy of Chinese honey to fast food. Authenticity and quality often require slow, methodical, informed production. In China, India and Vietnam, there is also very small-scale, very localized extraction of immature honey, blending of bioengineered sweeteners and the use of Chinese resin technology on honey, which has been witnessed by numerous people, including beekeepers. The China model has been exported in large and small-scale manifestations.

China has developed four prominent modes of adulteration of honey which are:

- 1. extraction of unripened honey;
- 2. use of resin technology to “launder” adulterated and contaminated and/or poor quality honey of residues, antibiotics, dark colors and unpalatable aromas and flavors;
- 3. addition of bio-engineered cheap rice and or beet syrups to evade government testing; and
- 4. use of apparatuses for extraneous bee feeding during blossom time.

Advertisement for Resin for Honey appearing on the Alibaba sales website:

**Working Principles**

Sunresin Special Adsorbent Resin for Honey Treatment is designed with unique structure and materials so that aimed substances like antibiotics, pesticides and HMF can be adsorbed when fully touching with honey liquor. The unique design and long application experiences make it a perfect technology option to remove those harmful and restricted substances from honey without any changes, destruction or lost on the wanted honey sugar, protein, enzymes etc.

**Advantages of Seplite LSF941**

- 1.Harmful and Restricted Substances Removal
- 2.High Stability and Efficiency in System Operation
- 3.Lower Cost for Operation and Maintenance
- 4.Easy Operation and Long Life Time
- 5.Technology Application Non-Traceability in Processed Honey

Concurrent with efforts to expose adulteration, there are efforts by companies colluding to cover it up and thereby derive gigantic profits.

The most pernicious and pervasive method of adulteration is the extraction of immature honey. The collapse of prices is primarily due to this method, though it is often used in combination with others. A study published in December 2023, by researchers including Dr. Enrique Bedascarrasbure of the Instituto Nacional de Tecnologia Agropecuaria (INTA) describes a “simple method to differentiate honey, partially ripe honey and nectars.” Using UV-Vis



spectroscopy and chemometrics, the study concludes that phenolic compounds are highly present in mature honey, which could favourably affect its biological activity. Another research paper by Dr. Bedascarrasbure has pointed out that tropical and semi-tropical countries can produce authentic honey and receive economic benefit from doing so. Over a decade ago, Dr. Gudrun Beckh, former President of QSI in Bremen, Germany, pointed out that, using NMR analysis, we clearly see that profiles of immature honey resemble the NMR profiles of nectar, not authentic honey. I have been Co-Chairman of the Committee for the Promotion of Honey and Health, and our position was that for any scientific evidence and any marketing of health benefits to be valid, persuasive and effective, they were exclusive to authentic, pure and unadulterated honey. The aura of health benefits of honey does not belong to “honey” adulterated in any of the modes described above.

During discussions with Vietnamese honey exporters about the growing imperative to exclude adulterated honey, they said, “Of course we can very easily produce mature honey, but if we do so it will take more time and more expenses. And, we will not be able to produce the huge quantities or export at the low prices which are demanded by U.S. and Canadian honey importers and U.S. honey packers.”

The scientists and authorities to whom and with whom we talked in Europe had a sophisticated and deep awareness of the complex modes of contemporary honey adulteration. They knew that multiple tools of detection with continuing and expanding data bases were imperative if beekeepers and consumers, commercial integrity and global food security were to be protected and defended. These agencies recognized and knew a lot about the multi-leveled international cartels who created and economically benefitted from this mode of food fraud. It was clear that masks and disguises would be used in defense of the activities creating illicit profits. The openness to collaborate with other national and international organizations to expose and combat the problems was clear.

During our visit to France, we were very happy to meet with a French beekeeper who had hosted 20 Chinese visitors and told them about the crisis due to the collapse in prices. The Chinese exporter mocked him, saying, “China can produce large quantities of honey, sell at a low price and still make high profits.” The Chinese suggested that they need to use modern modes of honey production. Behind this magic is the more sinister reality of systemic adulteration. It was a highlight to meet this beekeeper and his friends. That beekeeper was both gracious and generous, but also strong, courageous and articulate in his defense of authentic honey.

In a report written for the American Food Industry Association’s yearly publication, the President of the National Honey Packers and Dealers Association (NHPDA) termed “the recent year as a relatively quiet one for the honey sector.” How sadly tone-deaf that statement is to the discontent of beekeepers. The organization met with Congressional leaders and raised criticisms of the HIVE Act being supported by U.S. beekeeping associations, and raised objections about “serious flaws” in the USP standard.

Of course, adulteration is not a question of consumer preference, prejudice or ignorance. It is a matter of science and definition. The USP was recommended by Prof. Michael Roberts of UCLA law school as an impartial, authoritative and meticulous authority to help develop meaningful and accurate standards. Codex has defined honey as “ the complete interaction of botanical and zoological life forms.” Prof. Norberto Garcia gathered numerous scientists from numerous laboratories engaged in the analysis of food fraud to create this standard, which is consistent with the Apimondia Statement on Adulteration of Honey. Apimondia, lead by Dr. Jeff Pettis, is the world’s largest beekeepers association. The analyses of the USP and Apimondia represent significant first steps to transcend essentially archaic regimes. As we have pointed out before, the dominant methodology of carbon isotope analysis is fraught with scientific difficulties, and emerged from non-verified and narrow samplings. As Dr. Joseph Bowden pointed out, Dr. White’s sampling of the first year had results which contradicted those of the second year, which were never published. The contradictory results were quite natural and scientifically attributed to scientific conditions of an arid and sunny year vs. a rainy and cloudy year. The fixation of carbon isotopes through photosynthetic processes are influenced by weather conditions.

New efforts to create an enhanced traceability system must specify all of the relevant variables which determine the complex chemical profiles of honey. Those variables include botanical sources, soil conditions, climatic conditions, elevation, time of the year, fertilization, organic content, modes of extraction, modes of processing, and modes of storage.

While honey has been recognized as the third most widely adulterated food product, it is far from the only one. Adulteration of olive oil, coffee, and milk is well known.

The USP Identity Standard for honey, like its important predecessor the Apimondia Statement on Honey Adulteration, has a most salient feature to preclude the methods of adulteration. The opposition to this standard is partly because these methods create huge profits for some honey packers.

The universality of the concern with adulteration and fraud is manifest in the recent webinar series held by the World Trade Organization (WTO) regarding Trade Dialogues on Food: “Illicit Trade in Food and Food Fraud, Dec. 11, 2023. Concerns extend far beyond the beekeeping industry, which is a pioneer of the wider movement for authenticity. Studies by Canada’s Safe Foods for Canadians (SFCA) and the Canadian Food Inspection Agency (CFIA) have reported an overall increase in the percentage of honey samples that have tested to be adulterated, from 13% (2019-2020) to 25% (2020-2021) and 22.5% in 2022. The volume of imported honey doubled during that period, from 5.2 million kgs. In 2018 to 10.6 million kgs. In 2022. The Canadian Honey Council is recommending that honey sampling by government agencies be increased according to declines in prices, and that imported honey judged to be adulterated be destroyed. Since the amount of honey sampled in past studies represents only a small amount of all honey imports into Canada, the problem of adulterated product is judged to be much larger than the numbers report. The Canadian Honey Council urges the CFIA to use the testing tools available to it, and increase testing for products from sources which are known to be suspect.

The results from honey sampling by both the Joint Research Center and the CFIA are very startling and significant. However, the underlying extent of adulteration is far greater than these samplings show. A key reason is that neither of these very valuable studies were able to investigate all the parameters of adulteration or used all the scientific tools capable of exposing honey adulteration, nor did they consider all of the multiple modern modes of adulteration of honey. If they had, their results would have been dramatically enlarged.

If we seek the truth and the whole truth as prerequisites to solving real problems and coming to valid judgments, then we have to employ comprehensive data, investigate all relevant parameters and not allow the cartels to define what parameters are to be looked at and what tests are to be employed.

The new EU Honey Directive takes the principled and scientifically correct stance that it is not those who potentially derive profits from adulteration who have the task to determine what modes to investigate nor what scientific methodologies to use.

### **Honey antidumping petition status**

As of the preparation of this report, there is not a decision as to whether antidumping duties will be changed, or whether critical circumstances, which bear potentially huge financial cost, will be imposed on importers of Vietnamese honey. Vietnam is appealing to the U.S. government to receive market economy status which has the potential to greatly reduce their antidumping duties.

Apiario Diamante, a Brazilian exporter of conventional, organic and specialty honey, successfully argued that the Department of Commerce should reconsider the high tariff of 83% for various reasons, including inability to follow standard investigation procedures during the COVID pandemic. The DOC has 60 days from May 30, 2024, to submit their redetermination. Other Brazilian exporters have rates in the range of 16%.

It is increasingly clear that antidumping petitions are extremely expensive, protracted, and unfortunately ambiguous in their outcomes. Many victories are pyrrhic, transitory victories which morph into their opposites. The quick increase of honey prices after the filing of the petition eventually collapsed. The price data provided earlier makes this crystal clear.

Despite two significant antidumping petitions, the prices of “honey” in the international, American and European markets have plunged in defiance of the general phenomena of high rates of inflation, the global health pandemic, and international conflicts including wars in Ukraine, the Middle East and North Africa.

### **Timber, titanium, solar panels, and honey**

From the Wall Street Journal, June 11, 2024:

*Scientists are embarking on an effort to keep sanctioned Russian timber out of Europe by mapping the unique chemical fingerprints of trees, a process that could be used to vet corporate supply chains for other banned commodities.*

*The project aims to bring science to bear in a fight by companies and governments to stop illegal wood from seeping into timber supply chains — complex, difficult-to-police networks of logging companies, sawmills, wood manufacturers and traders.*

To help enforce sanctions following the Russian invasion of Ukraine, an effort led by Washington-based nonprofit Forest ID created a database allowing customs officials and auditors to identify the origin of the timber. This database is not only being utilized by governments (Belgium has seized significant quantities of illegal timber), but by furniture giant IKEA. “If scaled up,” the article continues, “the project could have broad implications for how companies source a range of other agricultural commodities, such as cotton and cacao.”

Recent investigations have shown that titanium exported from China for use in Boeing’s aircraft was transported with fraudulent documents and the titanium was found to be fake. Titanium provides the strength and lightness needed for today’s advanced jet aircraft.

The U.S. government’s imposition of antidumping duties on imported solar products has been altered so that if China has exported their manufacturing to other countries (which often make only minor changes to products before re-exporting), those figurehead companies will be subject to the Chinese antidumping rates. This is a more sophisticated extension of the Honeygate case of a couple of decades ago, where Chinese honey was trans-shipped through over 30 countries including Thailand, India, Indonesia, Malaysia, and Taiwan. A similar situation of fraud occurs in the coffee industry, when Robusta coffee is marketed as the superior quality of Arabica coffee, and authentic high-quality Arabica has to compete with low-priced beans.

On the one hand, China has become engaged in a systemic quest to acquire global strategic resources including farms, fisheries, and forests, factories, mines, energy fields and advanced science. China is also engaged in the dominance and control of national and global markets. It is concurrently the epicenter of adulteration and it has exported those modern modes of honey adulteration throughout the world. At the same time Chinese entities are acquiring companies, factories, exporters, and distributors to whom the modes of adulteration and adulterated products have been exported. This is an example of systemic evasion.

There is a quote circulating among Chinese officials, as the Chinese empire expands its border and vision: China must “make honey in other lands.” Charles de Gaulle, former President of France, famously remarked that “the 19th century belonged to England, the 20th century to America, and the 21st will belong to China.” All empires have diverse ways of justifying themselves. Masks and disguises, ancient art forms, wear thin. That is happening at this moment.

## Ongoing environmental crisis

As we have argued, honey production cannot be abstracted from the environmental crisis. Dr. Jeff Pettis, former leading research scientist at the USDA, and current President of Apimondia, spoke in February at the Canadian National Beekeeping Convention about the important links between the crisis in honey production and environmental conditions: “Traditional calendar-based beekeeping practices are becoming less reliable due to shifting blooming times caused by climate change.” He also explained how research on the effects of rising CO<sub>2</sub> levels has shown it to have a negative effect on the concentration of protein in pollen, and highlighted indirect effects such as reduced honey production and broodless periods.

CNN reports about climate conditions in China, with heat waves and droughts in the North, heavy rains and floods in the South. India reports that they are suffering early, record terrible heat waves in 2024. In the U.S. there has been an increase in the number of tornados, floods, heat waves and an early start to the forest fire season. There a book “How to Lie with Statistics” by Darrel Huff. Distortion with statistics has occurred with recent reports of increases in hive numbers. As Kelvin Adee has pointed out, Adee Honey Farms, the largest beekeeping operation in the world, believes that their bees were counted 3-4 times. The deeper reality is the continuing stress on the bees and the difficulty and expense of maintaining global bee populations. Maintaining healthy bee populations amid the increasing vicissitudes and volatility of climate change remains difficult.

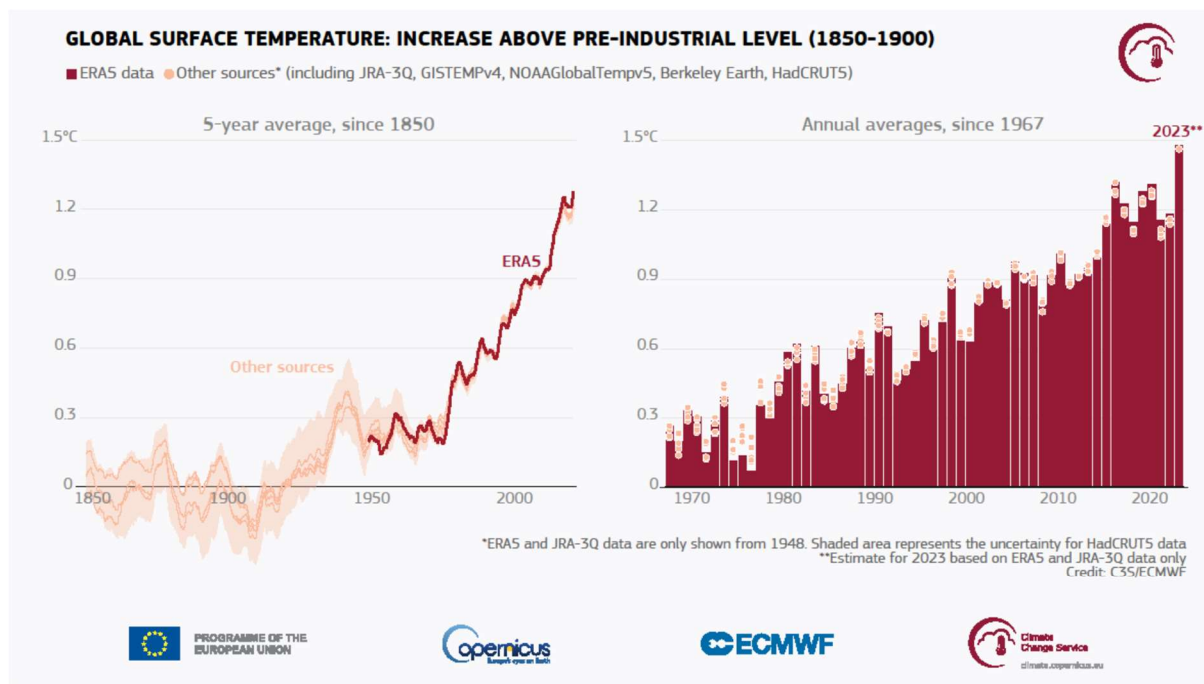
In the upper Midwest there are reports of railroad bridges and dams threatened with collapse in June, 2024. In Florida, southern areas have seen more than 14 inches of rainfall in 7 days. Severe weather and a major heat wave are affecting the country.

The NOAA reports that September 2023 was the hottest on record, 2.5 degrees F above average.

Concerns about groundwater depletion in the Bread Basket of the USA are familiar to those in California’s Central Valley and now those concerns are affecting farmers in many states in the central Midwest. Efforts to cut water use and plant crops such as sorghum that need less water than corn, and to monitor ground water are being made in order to conserve water for communities.

India’s capital Delhi is facing a water crisis in June, 2024, after the country suffered its “longest spell” of recorded heatwave. Other countries facing similar weather conditions include Thailand and Vietnam (CNBC June 14, 2024).

In Antarctica the melting of the “Doomsday Glacier” (Thwaites Glacier) is predicted to accelerate sea level rise, with implications as far away as Florida, according to a study published in the Proceedings of the National Academy of Sciences (May, 2024). Scientists worry that the speed of change of the glacier has been underestimated, and that the potential sea level rise as much as 10 feet would be devastating to hundreds of millions living in coastal communities worldwide.



Source: <https://climate.copernicus.eu/copernicus-2023-hottest-year-record>

Food adulteration and global warming are two phenomena which require advanced science and cool eyed objectivity to solve. Obscuring the facts only perpetuates these dual crises. Carlo Buontempo, Director of the Copernicus Climate Change Service states: “The extremes we have observed provide a dramatic testimony of how far we now are from the climate in which our civilization developed.” Samantha Burgess asserted: “2023 was an exceptional year with climate records tumbling like dominos. Not only is 2023 the warmest year on record, it is also the first year with all days over 1°C warmer than the pre-industrial period.” Excerpts from the Copernicus report:

“...2023 became the warmest year on record”

“Close to 50% of days were more than 1.5° C warmer than the 1850-1900 pre-industrial levels”

“Annual average air temperatures were the warmest on record, or close to the warmest, over sizeable parts of all ocean basins and all continents except Australia.”

“Global average sea surface temperatures remained persistently and unusually high, reaching record levels.”

“2023 was remarkable for Antarctic Sea Ice”

“The atmospheric concentration of carbon dioxide and methane continued to increase and reached record levels in 2023.”

“A large number of extreme events were recorded across the globe, including heat waves, floods, droughts and wildfires.”



By mid 2024 climate disasters of floods, heat waves, forest fires, tornados, droughts – all driven by self-feeding processes – are causing bridge collapses, dam destruction and other infrastructural collapses.

All such extreme climate events threaten production of authentic honey. In contrast, the production of adulterated honey under the four modern modes of adulteration is unaffected!

A recent study from the Harvard T. H. Chan School of Public Health, published in *Environmental Health Perspectives* “identified yield gaps in animal-pollinated foods...and establishes that loss of pollinators is already impacting health on a scale with other global health risk factors...” The economic impact of pollination loss in lower income countries was a decrease of 12-31% in the economic value of their crops, mostly due to fruit and vegetable loss. The health burden was higher in middle and higher income countries.

## Conclusion

The U.S. honey industry awaits 1) determination of final antidumping duty rates for certain exporters; 2) legal developments in class action suits involving monopoly and adulterated honey.

The sense of exploitation of beekeepers by the cartel was succinctly expressed by a Canadian beekeeper after his low-priced offer was rejected: Why should I lose money while you make good money off my hard work?

Aware of the conundrum of adulteration, some packers are saying in North America, *no more offshore honey, we will only take U.S., Canadian or Mexican*. Similar sentiments are emerging in Europe.

The real challenge before the world is to make authentic honey, to preserve and protect the world’s bees. For the making of authentic honey has an indirect but powerful relationship to global food security and global peace.

A new, brilliant movie musical tells the story of “Wonka,” a prequel to “Charlie and the Chocolate Factory,” which features the actor Hugh Grant and James Edward Carter (the actor we fondly remember as Mr. Carson in *Downton Abbey*). Young genius Willy, with creativity and ingenuity, produces and creatively markets high-quality authentic chocolates. An evil, sinister cartel of chocolate makers tries to sabotage, thwart and destroy the young genius. In the end, the cartel collapses from its corruption, and authenticity and quality marketed with creativity and integrity triumph! Let it be so with authentic honey produced by the world’s beekeepers.



*This photo was taken at a charming Bordeaux honey shop managed by beekeepers. The honey is produced a short distance from the city, which is of course more famous for wine.*

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