The Imperative for Authenticity in Honey Consuming and Producing Countries (The Alliance for Authenticity)

Introduction

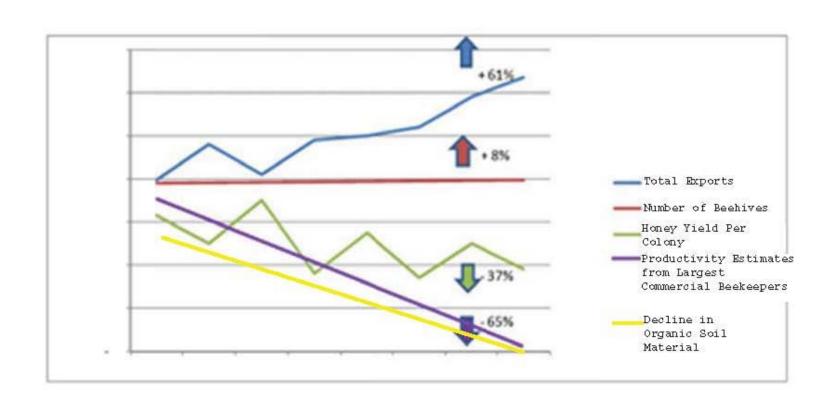
• I am especially happy to speak on Valentine's Day, during which we can celebrate our love of authentic honey.

The past several years have seen the international community plagued by the Covid pandemic originating in Wuhan, China. In previous centuries, humanity suffered from horrendous virus induced plagues. Today the international honey market suffers from the pandemic of adulterated honey, which drives beekeepers throughout the world to the brink of bankruptcy.

• Masters of Market Manipulation and Cartels have engineered an explosion of quantities of pseudo honey pervading markets at collapsing prices. Quantities for which there are no ceilings sold at prices for which there are no floors have frozen the Market for Authentic Honey in its Charm, Diversity and intrinsic and extrinsic value to Global Food Security, Ecological Sustainability and Authenticity.

- The absence of authenticity and presence of sophisticated and pervasive food adulteration is the foundation of the cheap imports, which have devastated the prices. This is an existential threat to the world's beekeepers, with wide unfurling implications.
- We are meeting at a propitious time when farmers throughout Europe are protesting low priced low quality imports.
- This existential dilemma represents a profound anomaly. In a graph widely cited, we showed the irreconcilable contradiction between stable number of beehives, exploding honey export quantities and sharply declining productivity per hive.

Honey Exports, Beehives, Yield 2007 to 2014

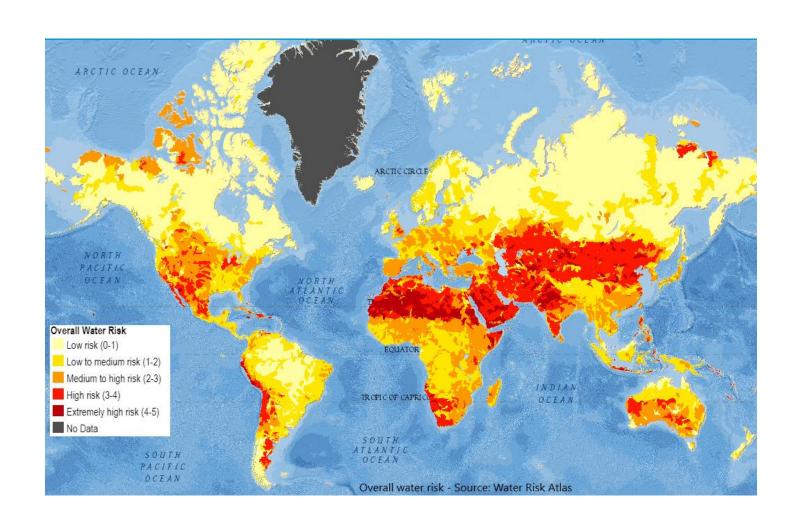


Honey Exports vs. Conditions for Production

 This graph is illustrative of the fundamental contradictions inherent within the global honey market. This graph was formed by Prof. Norberto Garcia, Richard Adee, former President of the American Honey Producers Association, and myself, using data from the Food and Agriculture Organization and other agricultural data. The graph illustrates that the amount of "honey" circulating in the international market is far greater than the amount of authentic honey which can be produced, given the bee populations, stresses on bees and climatic stress.

- A recent study by scientists from Pennsylvania State University described the link between the decline of honey productivity with the decline of the soil content. Furthermore, the use of genetically modified seeds is associated with a reduction in the yields of honey.
- The above two factors are important because there are no countries which have suffered more floods, more heat waves than China and India. Use of genetically modified seeds in those two countries is prevalent.

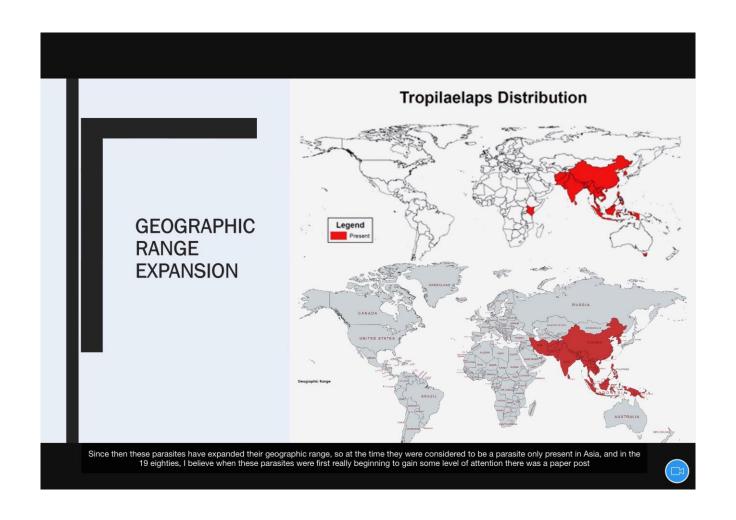
Worldwide Drought Map 2022



• The map of global heat waves and drought illustrates the recent climatic stresses on honey production.

 The following map of the presence of Tropilaelaps Mites worldwide shows the challenges for the health of bees in many countries producing honey.

Distribution of Honey Mites in Asia

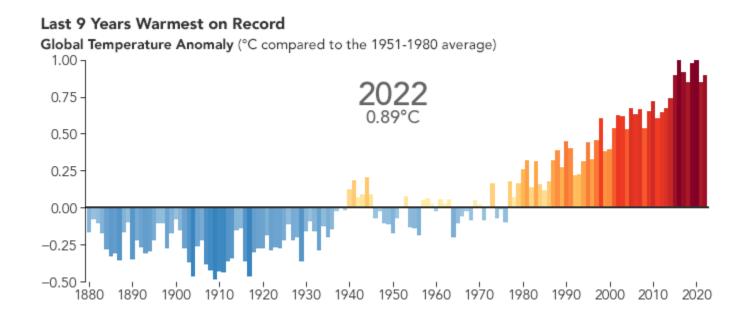


Global Presence of Tropilaelaps Mites

- Mites are devastating to bee populations, their health, vigor and productivity. This map illustrates the presence of mites in Asia which have been devastating to bee populations.
- The negative conditions for honey production are inconsistent with the products being exported fraudulently as honey.

- Olive groves of Spain suffered drought and heat waves in the summer of 2023, and suffered a decline in production which some estimate to be 50% of the normal crop size. This correlated with a doubling in prices for the authentic olive oil.
- Honey miraculously eludes the laws of economics. Exports go up and prices go down, while global production and global productivity are in a decades long decline. Methinks something is rotten in the State of Denmark.
- Food Authenticity, Ecological Sustainability, and Global Food Security are integrated phenomena.
 - Within the Honey sphere, the generic crisis has a subordinate crisis which is the crisis
 of pollinating foods.

Global Temperature Increase 1880-2022 Source: NASA

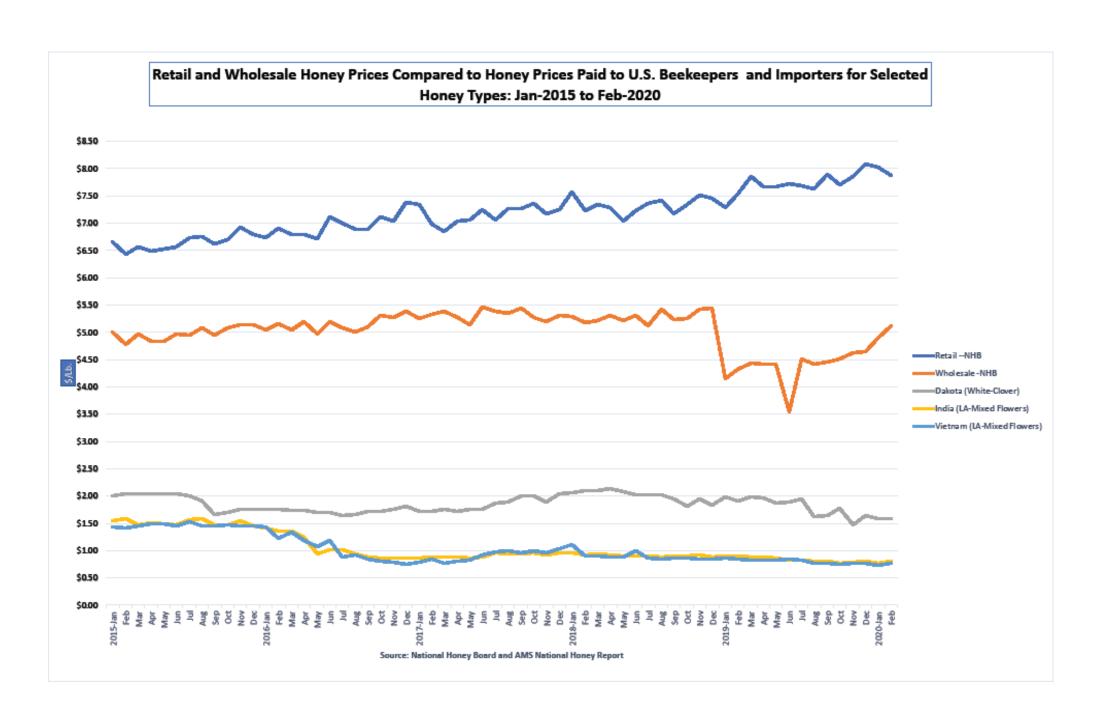


U.S. Honey Price Collapse

- Dr. Stan Daberkow, Emeritus Economist of the US Department of Agriculture, collaborated with us to form a chart which illustrates the economic motivation for adulteration. This shows how retail honey prices rose, packers prices to retailers rose, whereas prices to beekeepers declined. The huge gap between rising prices from honey packers to retailers and prices paid to packers to beekeepers and honey exporters represents illicit profits whose derivation is rooted in the adulteration of honey.
- Interestingly after this chart, produced by Dr. Daberkow and published in various print and internet journals, including the American Bee Journal and Apimondia's Apiservices website, was disseminated broadly, the data sources for prices from packers to retailers disappeared, disguising by their absence the economic motivation for adulteration of honey.



- We note that after July, 2023, all honey prices began to decline. If we extended the graph to December 2023, the price decline would be even more dramatic.
- The gap between prices to retailers and prices to exporting countries such as India and Vietnam continued to be significant.
- The following is shows the gap between retail, beekeeper and selected imported honey prices.



Modes of Honey Adulteration

- There has been an enormous proliferation of sophisticated and modern modes of adulteration in the past two decades. These modes are created and cultivated by very nimble and clever actors who are engaged in Economically Motivated Adulteration (EMA).
- The Economic Motivation for Adulteration (EMA) is illicit profits.
- In the Honey sphere, these modes include Factory Dehydrated Nectar (FDN), resin technology to remove offensive flavors, antibiotics and dark colors, blending of inexpensive bioengineered sweeteners whose costs are 10-20% that of authentic honey, and improper feeding of bees during production and harvest time.

These modern modes of Adulteration include:

- 1. The extraction of high moisture, immature honey,
- 2. The use of resin technology to purge honey and / or pseudo honey of dark colors, antibiotics, residues, offensive flavors and aromas,
- 3. The blending of bio- engineered sweeteners,
- 4. The illegal feeding of bees with cheap sweeteners during production times,
- 5. The introduction of cheap sweeteners into the cells in order to give the adulterated product the appearance of real honey.

Improper Modes of Honey Processing 2018 – W. Haefeker

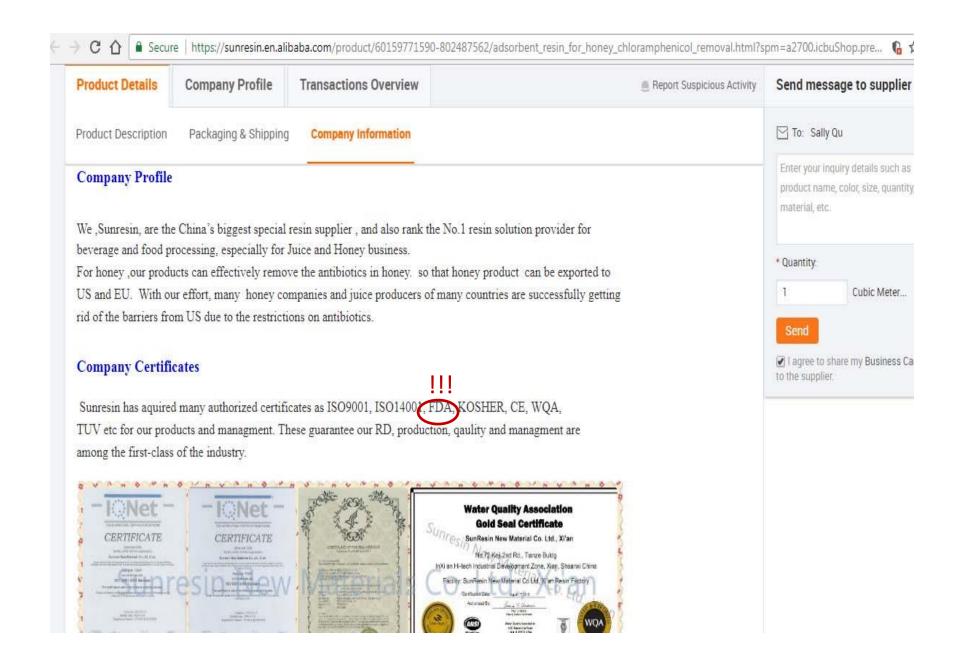


Working Principles

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
- Technology Application Non-Traceability in Processed Honey



- This Sunresin advertisement is as fraudulent as the honey produced using this chemical process.
- Walter Haefeker, former President of the German Beekeeping Association, has aptly
 described unripened high moisture honey as "Factory Dehydrated Honey "and compared
 China's massive "honey factories" to modern European Breweries. The Chinese call the
 product ": Shui Feng Mei " or "Water Honey."
- Chinese honey exporters have openly told experts that 95% of their honey exports are of
 immature honey. Indian honey exporters have openly confessed that 100% of their honey
 exports are of immature honey. Vietnamese exporters have said: "Of course we could
 produce mature authentic honey but if we did we could not produce the quantities and sell at
 the prices demanded by US Importers and US Packers.
- Authentic honey, in contrast is neither "Fast Honey nor "Factory Dehydrated Honey but
 the product of the full and completed interactions of bees and plants, of the Zoological and
 Botanical Kingdoms.

- It is interesting and alarming that Chinese sellers using the Chinese conglomerate Alibaba website extensively advertise modes of production of adulteration of honey which elude detection by U.S. governmental authorities, including the U.S. FDA and U.S. CBP. The arrogance and defiance is monumental.
- Recommendations are explicitly made that buyers use should customs categories such as "paint pigment" for "honey".

- Over the past two decades the quantities of "honey" exported to the world from China and the quantities of "honey" exported to the U.S. grew and grew but the honey prices collapsed. The consequence of this duality is that there were no ceilings for the quantities of adulterated honey and no floors to the prices for that "honey" in the international honey market.
- This collapsed market put enormous stresses on beekeepers producing authentic honey, robbed consumers of authenticity and threatened ecological sustainability and food security because the botanical and zoological kingdoms are integrated in complex interactions in interdependencies.

- China and India have huge populations of at least 1.3 and 1.4 billion people respectively. Both cultures revere honey.
- During the U.S. antidumping case against honey from China, the U.S. Department of Commerce was mandated to calculate antidumping duty rates based upon Indian prices. This was extremely difficult because India had exported no honey to the world previous to 2001.
- In China, the press exposed a high percentage of adulterated honey in the domestic consumer marketplace. Indian beekeepers have also noted the presence of adulterated honey in their domestic marketplace.

- The battle against adulteration requires more than the traceability of origin and the players involved in the transactions. It requires an intrusive and extensive knowledge and specification of the proper or improper modes of production and processing. This can apply to many industries, including olive oil, wine, coffee, and fresh fish. It also involves other industries, such as the diamond industry which has natural and synthetic modes of production.
- The absence of Authenticity robs industries of the ability to creatively market and effectively describe the benefits of the product. It robs food industries of the ability to describe the health benefits and to tell the story of the romance of production.

- It is an existential dilemma for all legitimate producers of honey.
- The tentacles of this crisis reaches into the production of almonds, citrus fruits, berries and fruits, and numerous vegetables. That is, lack of pollinators jeopardizes the production of anti-oxidant rich foods essential to a healthy diet.

Shift from false country of origin to adulteration

 Subsequent to the export and transshipment of Chinese honey, a major shift occurred, involving the export from China of the sophisticated modes of adulteration for honey, such as resin technology, bioengineered sweeteners, etc. The Chinese have openly said in various discussions that 95% of the honey they produce is "water honey," meaning it is extracted prematurely and Factory Dehydrated before the syrup has been transformed into honey. Accompanying the export of illicit modes of honey production has been the systemic acquisition of strategic global resources by China, resulting in direct or indirect ownership by Chinese companies of strategic resources, including honey.

2021 – China is major exporter of adulterated honey to the European Union

• LUXEMBOURG — The EU will change its food labeling rules to stop fake Chinese honey secretly being passed off as European, national agriculture ministers and the EU's agriculture commissioner agreed at a meeting this week.

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• Honey is one of the most frequently adulterated products in the world and EU beekeepers have long complained about being undercut by the industrial-scale, low-quality honey production in China, the world's largest honey producer. There, it's common for honey makers to blend in sugar syrup — a practice that doesn't meet EU standards but is difficult to detect.

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• Current EU labeling rules for honey already require the label to state the EU country of origin, but when it comes as a blend of honey from different countries, the categories are vague — merely stating EU, non-EU or a mixture.

- China has become in the past two decades an epicenter of:
- 1. Food Fraud and Food Adulteration, including honey
- 2. Ecological degradation as manifested in its internal and external footprints on the worlds' forests, fisheries, farms and water systems
- 3. The acquisition of global strategic resources, including French vineyards, Italian silk houses, German high tech companies, U.S. farms and food companies, Swiss seed giants, energy and mine resources.
- China has presented such activities as benign and beneficial when in fact they are predatory.

The Anti-dumping Phenomena in the U.S.

- As is well known, the U.S. government has conducted several anti-dumping investigations, pursuant to the formal complaints of dumping submitted by American honey producers which were provoked by the steady collapse of honey prices paid for imported honey.
- The first anti-dumping case was against China in the 1990s, and there was an interim resolution of that case through a Suspension Agreement. I helped negotiate that agreement which put a ceiling on the quantity of imports and set minimum prices based on global honey prices. Unfortunately that agreement was violated through false valuations from exporters and kick backs to importers. Following revelation of that fraud, an antidumping case against Chinese honey took effect in the early 2000s.

- In order to evade high antidumping duties, Chinese honey was then being transshipped through third countries using false country of origin, false quality certificates, and false bills of lading. This involved a vast network of collaborators in China and exporters in over 30 countries selling transshipped Chinese honey.
- Products shipped in these schemes included: 1) ultra-filtered honey; 2) ultra white (transparent) and pollen free honey; 3) ultra-filtered honey blended with dark honey; 4) ultra-filtered "honey" blended with Argentine dark amber and Argentine pollen. The fraudsters were not only brazen but clever. In the end they were caught and prosecuted in a number of ways. But the "beat went on."

- As the phenomena of transshipment was exposed and some were arrested, jailed or precluded from the U.S. honey industry, the U.S. government changed tactics and focused on the source of demand – the packers. The theory was to catch the packers using illegally transshipped honey.
- That led to a criminal indictment for Fraud which eventuated in "Honeygate" and the deferred prosecution of two honey packers and the arrest of some Chinese agents orchestrating the exports. But the punishment was too weak and narrow to stop a continuation of the crime. There was a vast international cabal orchestrating transshipments, which extended far beyond the activities that were punished.

US Customs prosecution of "Honeygate"

 One of the largest prosecutions of customs and food fraud by U.S. Customs and the U.S. judicial system occurred after the antidumping order against Chinese honey was initiated. Over 30 countries were involved in the mislabeling of the Country of Origin, Quality Certificates and Ocean Bills of Lading for imported honey originating in China.

Farm News 2013-Lessons from Honeygate

- The Honeygate scandal is over; or at least the latest incarnation of honey laundering has come to a close. Two major U.S. honey packers, Groeb Farms in Michigan and Honey Solutions in Texas, confessed to importing million of dollars in mislabeled honey. Groeb Farms will pay a \$2 million penalty; Honey Solutions will pay a \$1 million penalty. Both companies agreed to adhere to honey import compliance programs, and Groeb fired several senior executives.
- Despite legal closure, Honeygate, in other forms, is still bubbling under the surface. In reality, with billions of dollars up for grabs on the counterfeit food market, Honeygate is going nowhere.
- 5 takeaways
- 1. Get caught honey laundering? Pay a fine, act contrite, issue a mea culpa, promise to make changes, follow a compliance program, and then let the band play on. Other companies involved in illegal honey imports watched the entire legal affair and took good notes: Multiple millions in profit [were earned] against a million-dollar penalty can pencil out to very

- profitable math. (A pending civil suit against Groeb Farms and Honey Solutions may pack more financial sting than Department of Justice penalties. See #5 below.)
- 2. China knocking. The Chinese are not about to quit knocking on the import door. American consumers demand 400 million pounds of honey per year; but U.S. domestic production is capable of only producing 150 million pounds per year. The 250-million pound void is an El Dorado opportunity for foreign companies; particularly from China, the world's No. 1 honey producer at 300,000 tons per year.
- The publicity that came out after Honeygate was massive. The dilemmas of beekeepers provoked the bee movie with Jerry Seinfeld.

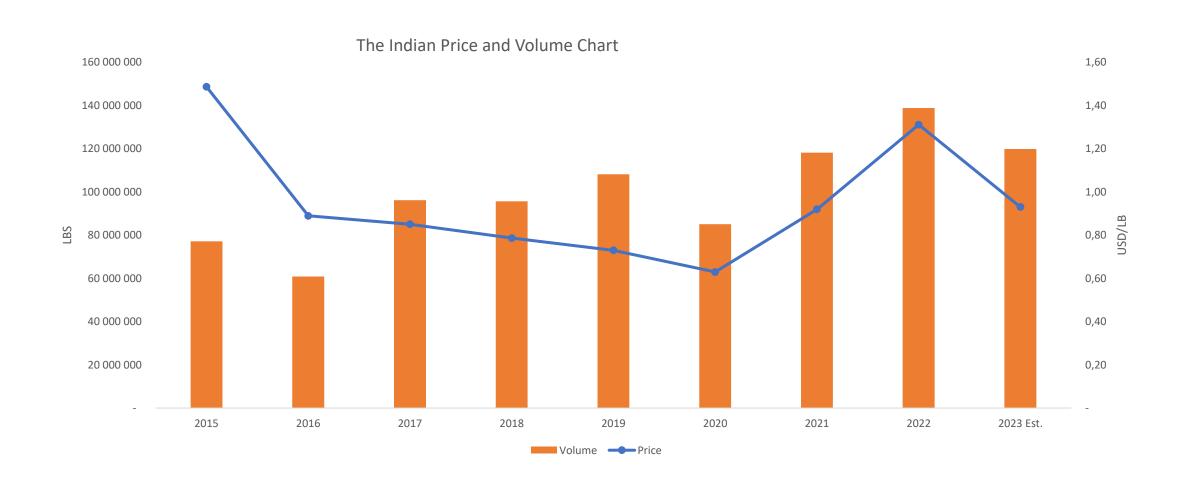
Recent U.S. Honey Antidumping Cases

- A second major honey antidumping petition was issued against honey from Argentina, Brazil, India, Ukraine and Vietnam in 2021. This put some upward pressure on the honey market prices. But that pressure was very transient and fleeting. A temporary bump in domestic and imported honey prices occurred, also during the global covid pandemic, which deteriorated quickly with very irrational antidumping duty rates instituted by the Department of Commerce.
- For example, Vietnam honey received a tariff of about 60% (based on the customs value of the exported honey) and Indian honey was given a duty of about 7%. India, like China, is well-known for the use of the illicit mode of production using extraction of immature honey, resin technology, and blending of bioengineered sweeteners.

- After the invasion of Ukraine, Ukraine was removed from the complaint.
- Contrary to the general rules, after the case was filed the cartels responsible created a huge surge of imports prior to the preliminary determination of duties. Inventories of very low priced honey increased in the U.S., creating even greater stress on North American beekeepers.

- It is worthy to note that Indian beekeepers producing authentic honey have extensively and repeatedly complained about their inability to compete with those producers and exporters who are selling honey that has been adulterated.
- Indian honey exporters, with their colluding partners in the importing countries, are selling all types of honey including white, organic, dark colors in contracts that extend far into the future at extremely low prices. This has created a frozen market for authentic honey and threatens bankruptcies for producers of honey throughout North and South America, Europe and the UK.

Indian Honey Imports to US 2015-2023



- After a brief reprieve in 2021-2022 from prices which declined during 2017-2020, the collapse of imported honey prices in the U.S. continued in 2023.
- The Indian Honey Import chart contrasts volumes and prices.
- In November and December of 2023, prices for some Indian honey imports reached a low of USD\$0.68/lb. customs value, and volumes were at highs of over 18 million pounds per month.
- U.S. beekeepers who mounted the antidumping petition believed that prices for U.S. honey would strengthen, but they did so only temporarily.

Development of Testing Techniques Rooted in Causation and Advanced Traceability

- Given the complexity and diversity of the world's honey, its numerous floral sources and the complex environmental conditions under which honey is produced, processed and stored, there is, as once thought, a magic number, a silver bullet. The data base of 100 authenticated samples for the original carbon sira test development, and the chemical and physical parameters used by Dr. White in his role of verifying the purity of honey bought from American beekeepers under the former U.S. Department of Agriculture's honey buy back program to help distressed beekeepers in the 19070s, was too narrow. Further, there was no singular carbon isotope ratio by which plants producing honey fixed carbon.
- As is not widely known, the second year of White's research yielded completely different results. Those results were never published. But the cause was both obvious and natural. One year was arid and sunny, the second rainy and cloudy. The climatic conditions influenced the rates at which carbon was fixed by the honey producing plants. The addition of a protein sira analysis by White was clever but not compelling. The dynamics of protein and sugars within the complex that is honey is such that if there are multiple floral sources present as is common the sugars of different floral sources of honey crystalize at different rates. As the sugars crystalize there is an extrusion of the protein into the yet to crystalize floral source honey.

- Regarding testing of honey for presence of extraneous sugars, the development of new bio-engineered sweeteners continues in Asia, while the test database is frozen.
- We need a system for testing for adulteration of honey that takes into account all the variables that cause the enormous diversity in profiles of the diverse realm that is honey.
 With modern computing power and deeper scientific knowledge it should be relatively easy to create a library of profiles.
- This causality based approach must be used to an enhanced traceability system that goes beyond M1 sold honey to M2 who sold it to M3 to the floral sources, the geographic region, the time of the year, the weather conditions, the processing techniques, the storage conditions. On the basis of enhanced traceability we can see whether the traceability conforms to or violates the profile.

- It is not only the technique you use, but how that technique is used, what it looks for and what it ignores. For example, NMR currently can look at over 36 profiles or parameters. Some packers, exporters and importers only look for false country of origin, ignoring other parameters that concern adulteration. Food fraud, and also customs fraud, involves both false country of origin and entry products under false categories.
- While some groups purposefully assert that customs fraud concerns only country of origin Prof. Michael Roberts of the UCLA School of Law, Resnick Institute, and world expert on food fraud has pointed out that customs fraud involves both modes of fraud. A competent program requires all the tools used in a comprehensive manner. It also requires looking for all modes of adulteration.

- Ironically, publications from China speak poetically of China's acquisition of strategic resources in other countries as "Making honey in foreign lands."
- Customs fraud is a criminal activity. The fraud is not confined as some improperly and purposefully portray it – to Country of Origin fraud. Entering products under customs categories that are not appropriate is a major form of Customs Fraud.

Media Attention to Food Fraud

 A documentary titled "Rotten" was translated into many languages and shown on Netflix. Its first segment was on Honey Adulteration.
 Prof. Norberto Garcia opens the documentary with a quiet assertion: "It is Fraud and it is a Crime."

International Collaboration to Expose Food Fraud

- The international scientific community, judicial community, and regulatory governmental bodies are increasingly collaborating with each other to expose and to stop modern modes of honey adulteration. Prof. Michael Roberts has been involved in collaboration with the UN Food and Agricultural Organization.
- The European Commission released a document in March, 2023, reporting that 46% of honey samples collected at different levels of the European market were suspected of adulteration.

• 'From the hives' — as it was dubbed — was an EU coordinated action led by the European Commission's Directorate-General for Health and Food Safety (DG SANTE), with the national authorities of 18 countries who are part of the EU Food Fraud Network, OLAF and the European Commission's Joint Research Centre (JRC).

- The JRC's conclusion was reached without a comprehensive and up to date utilization of the most modern, sophisticated and penetrating scientific methodologies to detect, quantity and expose adulteration of honey.
- The UK beekeeping community has formed a Honey Authenticity Network which brings together beekeepers in the UK to solve the problem which has severely plagued their community. The intensity of the quest for authenticity in the UK is reflected in the fact that recent scientific testing revealed that 100% of UK honey samples drawn under supervision of the EU Joint Research Commission were found to be suspicious of adulteration.

- As the issue of food fraud is attaining international prominence, including customs fraud in respect to both country of origin and the nature of the products imported, the members of the cartel have put on White Robes and mounted White Stallions.
- China has increasingly tried to gain a controlling position in international organizations setting standards. Unfortunately they are often less concerned with safety and authenticity and more concerned with economic interests and the dominance of markets through low priced fraudulent products. In an international context of an expanding battle against food fraud, we must become fully aware of nefarious motivations.

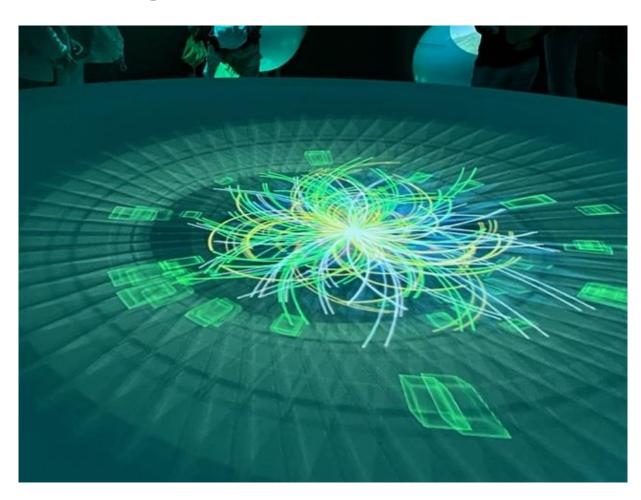
Alliance for Authenticity

- In June of 2023 there were international discussions about the depth, breadth and severity of this crisis, including the difficulty to stop it. It became crystal clear over the past few decades that industries in which adulteration is pervasive cannot "Police Themselves."
- Lawsuits have been filed under the RICO statute charging companies with criminal collusion to commit food fraud and customs fraud.

 The Alliance for Authenticity recognizes that all great rivers are the result of the confluence of many tributaries. The Alliance seeks to integrate: The base of the industry, the producers, the retailers who have to better exercise their responsibilities to consumers to avoid food fraud, the manufacturers who have to do the same, consumer associations which have the right to demand integrity and authenticity of the products they buy, environmental groups whose mission includes the protection of the pollinators which integrate the botanical and zoological kingdoms throughout the planet, and the broader agricultural interests which depend upon pollination services in a healthy and incentivized community of the Guardians of the Global Pollinators.

• This August I visited CERN, which is the world's largest scientific laboratory investigating the smallest domains of the universe. Scientists from 100 countries are participating in the research conducted at CERN. The analysis of the data generated by the extraordinary controlled collisions of matter (at speeds of 99.99% of the speed of light) often requires 150 supercomputers scattered throughout the world. A similar collaboration occurred in the mapping of the human genome. International collaboration involving many countries has become fundamental to scientific discoveries.

Small Particle Collisions in the Large Hadron Collider



• Coincidentally, during December, 2023, it was announced that the Miriam Webster Dictionary word of the year is:

Authenticity!

Food Authenticity and Health

- Food Authenticity is also important to health professionals who recognize the need to provide consumers with natural and healthy products if the health benefits of food are to contribute to a healthy human family throughout our globe.
- We emphasize that there is no creative marketing of authentic honey that is convincing and persuasive if the product is adulterated honey. The positive virtues of honey are not present in fake honey.
- The Alliance for Authenticity is international in its scope. It seeks to help transform some of the countries which have been sources of the problem of honey adulteration into sources of a solution to provide authentic honey.

Honey Authenticity Network UK

Graphic Outline for the Alliance for Honey Authenticity

UNIONS, STATES, PROVINCES AND COUNTIES

Modern Set of Regulations, Border Control and Trade Inspection.





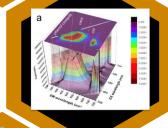
INTERNATIONAL INSTITUTIONS

All state & multinational institutions, that impact bees & honey trade.











AUTHORS & STAKEHOLDERS

Commercial laboratories provide C3 syrups and factory dehydrated nectar, a "honey" status. Their secrecy in data and methods feeds impunity. The World Beekeepers Guild must create an alternative that responds to their interests.



WORLD GUILD OF BEEKEEPERS

Honey authorship belongs to Bees and their keepers. Traceability, sampling of extraction, further transactions and blends allows open databases and sound scientific proof.



BEES SURVIVAL NEEDS IFAIR TRADE AND RETAIL

Environmental and health reasons, require trade and retail free of honey fraud, as quintessential to the food supply based on bees pollination.

NEW OFFICIAL METHODS

The compositional richness of honey, spectrometry, metabolomics and chemometrics, provide several choices of identity profiles. Multiple and unpredictable official methods discourage fraud.

• It has been said that Honey is the Soul of a Field of Flowers. That soul has to be restored.

Honey is the Soul of a Field of Flowers



Saving the Bees Honey and Wine in the USA

