

Faux Honey: *The Truth Behind the Honey Bear*

Did you know that the largest food fraud case in history involved honey? It's true, and the story reads like a true crime novel complete with deceit, money laundering, international intrigue, and suspense.

The HoneyGate Scandal

The scheme¹, concocted by Groeb Farms Inc., a firm with plants in Onsted, Michigan and Belleview, Florida, was created to save the farm more than \$180 million by smuggling in Chinese honey into the US to avoid hefty tariffs. Groeb Farms admitted to having participated in the scheme to mislabel Chinese honey to avoid steep US import taxes. Groeb, along with a Germany-based trader, Honey Holding - since renamed to Honey Solutions - illegally shipped the honey from China via third-party countries to the US. In fact, some of the "honey" wasn't even "honey" at all. It was declared as sugar and even contained antibiotics prohibited for use in honey. The story does end up with justice² being served with Groeb filing for chapter 11 bankruptcy protection in 2013, and five individuals and two domestic honey processing companies being charged with federal crimes in connection with this illegal importation.

The honey industry must have learned a lot since that investigation, right?

True Source Honey³ Emerges

This HoneyGate debacle was the impetus for the creation of True Source Honey, LLC, comprised of a number of honey companies

and honey industry participants to call attention to the problem of illegally sourced honey. They work to encourage action to protect consumers from these practices, and to highlight and support legal, transparent, and ethical sourcing. The True Source Honey initiative seeks to help maintain the reputation of honey as a high-quality, highly valued food and further sustain the US honey sector.

True Source Honey acknowledges that most but not all imported and domestic honey is ethically and transparently sourced from legal, high-quality sources. Some honey brokers and importers illegally circumvent tariffs and quality controls, for example, selling Chinese honey of questionable quality to US companies. This threatens the US honey industry by undercutting fair market prices and damaging the honey industry's reputation for quality and safety.

This sounds like a good industry-wide proactive solution to shore up quality assurance, quality control, and fair and equitable sourcing. Yet, recent investigations into the honey industry paints a different story showing that the drama continues.

Faux Honey 2.0⁴

In 2018, Australia's biggest listed honey company, Capilano, and some of the country's largest supermarket chains faced accusations of unwittingly selling "fake" honey.

Testing at a leading international scientific lab specializing in honey fraud detection found that almost half the honey samples selected

from supermarket shelves were “adulterated,” meaning it has been mixed with something other than nectar from bees.

Capilano strongly denied any issues with its products and criticized the testing — known as Nuclear Magnetic Resonance (NMR) — used to detect the impurities, pointing out that it differed from the official Australian test.

While there was no suggestion that Capilano or other brands were aware of the adulteration, the scandal continues to shine a light on the growing awareness of honey adulteration in the food chain.

So how is Honey Tested?

A study published in Nature’s Scientific Reports⁵ sheds some light on how authenticity and geographic origin of global honey can be determined using carbon isotope ratios and trace elements. As indicated in the abstract, honey is the world’s third most adulterated food. The addition of cane sugar or corn syrup and the mislabeling of geographic origin are common fraudulent practices in honey markets.

Think of isotope testing as a signature verification system for small regional variances that exist across honey. Through isotope testing, the true country of origin and chemical make-up can be identified by comparing a “honey” sample of unknown origin and authenticity to a known honey sample from a particular area of origin. If the samples don’t line up, then the honey has likely been adulterated.

The study examined 100 honey samples from Australia (mainland and Tasmania) along with 18 other countries covering Africa, Asia, Europe, North America and Oceania. Carbon isotopic analyses of honey and protein showed that 27% of commercial honey samples tested were of questionable authenticity. The remaining 69 authentic samples were subjected to trace element analysis for geographic determination. The findings show the common and prevalent issues of honey authenticity and mislabeling of geographic origin which can be identified using a combination of

stable carbon isotopes and trace element concentrations.

Clean Label Project Investigates

Clean Label Project decided to conduct an experiment of its own into the true contents of America’s best-selling sweeteners. From white sugar, no-cal alternatives, honey, and everything in between, Clean Label Project went to grocery stores and brand websites to purchase America’s best-selling sweetener products in the exact same way consumers do. The only difference is that instead of stocking our pantries, we took them to a third party accredited analytical chemistry laboratory for testing.

Our Findings When it Comes to Honey

1. Honey is a strong antioxidant. Honey contains varying concentrations of polyphenols, which are powerful antioxidants that are thought to reduce the risk of heart disease and cancer. Compared to other sweeteners, honey is among the strongest antioxidants. No-calorie, and low-calorie sweeteners tested poorly for antioxidant power.

2. Of the thirty-five honey samples collected, we found one guilty of adulteration. When brands make claims of 100% Pure Honey, one would assume that the product contains 100% pure honey, right? The sample in question was a retail private label honey product. More concerning was that the product was certified organic.¹ Given the traceability inherent within the USDA National Organic Program certification process, this was a surprising finding. However, certified organic hasn’t been without authenticity scandals.

In 2018, the perpetrator of the largest case⁶ of organic fraud in United States history was sentenced to more than 10 years in prison. Between 2010 and 2017, court documents show that farmer Randy Constant ran a massive Iowa grain brokerage, selling more than \$142 million in supposedly “organic” animal feed to

livestock farmers throughout the Midwest. In turn, the products those farmers sold to the public under the USDA-certified organic label—meat, dairy, and eggs—were virtually indistinguishable from their conventionally produced counterparts. Thousands upon thousands of consumers paid for products they did not get and received products they did not want.

Court documents show that Constant purchased the grain through a brokerage he owned called Jericho Solutions, then sold it to livestock farmers. Three associated grain farmers were given lesser sentences alongside Constant, all of whom were found guilty of knowingly growing fraudulent corn and soy for the grain brokerage. The Department of Justice claims that Constant's products accounted for 8 percent of all certified organic soybeans grown in the US in 2016, and 7 percent of comparable certified organic corn.

Constant exploited the organic/conventional price differential by selling faux-organic feed at prices that couldn't be matched by competitors. In fact, other, presumably honest organic feed producers allegedly reported Constant to federal investigators, claiming his prices were simply too low for the crops to have been produced organically.

So what's a concerned consumer to do?

A study⁷ conducted by the Food Safety News in 2011, revealed that more than three-fourths of the honey sold in US grocery stores isn't exactly what the bees produce. Food Safety News purchased more than 60 jars, jugs, and plastic bears of honey in 10 states and the District of Columbia. The contents were analyzed at Texas A&M University by one of the nation's premier honey pollen investigators, a melissopalynologist.

Highlights of the study revealed that:

- 76 percent of samples bought at groceries had all the pollen removed. These were stores like TOP Food, Safeway, Giant

Eagle, QFC, Kroger, Metro Market, Harris Teeter, A&P, Stop & Shop, and King Soopers.

- 100 percent of the honey sampled from drugstores like Walgreens, Rite-Aid, and CVS Pharmacy had no pollen.

- 77 percent of the honey sampled from big box stores like Costco, Sam's Club, Walmart, Target, and H-E-B had the pollen filtered out.

- 100 percent of the honey packaged in the small individual service portions from Smucker, McDonald's, and KFC had the pollen removed.

However, on a more positive note:

- The findings revealed that every one of the samples Food Safety News bought at farmers markets, co-ops and "natural" stores like PCC and Trader Joe's had the full, anticipated, amount of pollen.

- And if you have to buy at a major grocery chain, the analysis found that your odds are somewhat better of getting honey that wasn't ultra-filtered if you buy brands labeled as organic.

- Out of seven samples tested, five (71 percent) were heavy with pollen. All of the organic honey was produced in Brazil, according to the labels.

Other tips when choosing honey:

1. Look for the Clean Label Project seal. Clean Label Project offers a Purity Award for the products with the cleanest ingredients in the category. Think of it as the Honor Roll, ...but for honey.

2. Look for the True Source Honey seal. This is a consortium of transparent and forward-thinking domestic honey brands looking to ensure high quality and high purity honey for American consumers.

3. When in doubt, ask. It's a great time to be a consumer. When you have questions, ask brands. Ask what testing and diligence goes into sourcing their honey. Better yet, ask them over social media so you can bring this information to light for other consumers too.

References

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