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BRYANT'S RESEARCH HELPS TRACK ILLEGAL HONEY

The FDA requires honey to have pollen grains embedded in it to be called honey. These highly nutritious grains are frequently filtered out of the final product leaving no way to determine whether it is really honey, or a highly processed syrup which bears that name. Recently, journalist Richard Schiffman writing for the Huff Post Green on-line newspaper reported that the understaffed FDA is not product checking honey to determine if manufacturers are meeting its standards.

Consequently the Food Safety News scientists recently suggested that over three quarters of the honey sold in American supermarkets and drug stores may be a watered-down, reconstituted hodge-podge of real honey mixed with cheaper, less savory, and often unsafe ingredients.

Vaughn Bryant, an A&M anthropologist, has been investigating honey since 1975, when the U.S. Department of Agriculture asked him if he could test a sample of honey and determine its origin. At the time Bryant studied pollen at archaeological sites in order to tease out historical details. As it turns out, pollen in bee honey — traces of the many, variable nectar sources bees use — can be used to determine geographically where the honey was made.

"Holy Moses, I had no idea what I was getting into," recalled Bryant, director of TAMU's Palynology (the study of pollen grains) Research Laboratory, of his early research days.

Now, after decades of experience, Bryant can look at samples of honey under a microscope in his lab and identify hundreds of types of pollen on sight. Since each type of pollen resembles a roundish, nondescript speck of dust, this is no easy task.

Bryant is so good at what he does that his expertise is in demand by organizations one would never imagine having a honey association. It is easy to imagine linking pollen to plants. Knowing the geographical range of plants, Bryant usually is able to determine the location of the bees that produced a certain sample.

More exotic perhaps is the value energy companies put on Bryant's expertise. In his lab along one wall stand several large cabinets housing a multimillion-dollar collection of 20,000 pollen samples. Two-thirds of the collection, he says, was donated by BP and Exxon Mobile Corp., which use pollen in oil exploration activities to determine the relative ages of rock strata.

For the Food Safety News, according to Schiffman, they sent 60 jars, jugs and plastic bears of store-bought honey to Vaughn Bryant. His results were astonishing: virtually all drug store honey and small individually packaged honey served up in fast food outlets does not contain pollen, and 76 percent of the amber stuff sold in America's leading supermarket chains does not qualify as honey by the FDA's own standards. On the other hand, all of the samples bought at farmers markets, coops and health food stores were infused with the traces of pollen that proved it was real.

"It's no secret to anyone in the business that the only reason all the pollen is filtered out is to hide where it initially came from and the fact is that in almost all cases, that is China," says Richard Adey, the Washington Legislative Chairman of the American Honey Producers Association, and one of America's largest independent honey producers.

Not only is low cost Chinese honey forcing many American bee-keepers out of business, but the unregulated liquid is often heavily adulterated with high fructose corn syrup and other sweeteners, as well as being tainted with chloramphenicol, heavy-metal toxins and a witches brew of agro-chemicals, including some illegal animal antibiotics, which are fatal to a small percentage of the population.

In 2001, the U.S. imposed high tariffs on Chinese honey to prevent the dubious syrup from flooding the USA market. Chinese producers responded by illegally transshipping their product to other countries, such as India, where the laundered "honey" is then sent to the U.S. Since few American distributors conduct the costly lab tests, few know if their product is contaminated. In 2010 the European Union effectively banned much of the transshipped Chinese honey from their market. But U.S. officials have not yet followed suit. More than half of the honey consumed in the U.S. is from unknown foreign sources.

In an effort unveiled at the 2011 North American Beekeeping Conference in Galveston in January, a group called True Source Honey announced a voluntary certification program for producers and distributors who are able to prove that their honey comes from legal and legitimate sources. They are also lobbying the FDA to take more effective measures in strictly defining honey and regulating its sale.

Bryant's expertise has had other effects. Recently, he was asked to analyze the honey produced and served by the White House to determine where the bees are sourcing their pollen. The President added honeybees to the White House in 2009 making White House honey a new item. White House honey is now served at official state dinners and samples are often presented as gifts to special dignitaries.

After analyzing the honey, Bryant concluded that the White House honey is classified as a unifloral clover honey but also contains minor amounts of nectar from other nearby sources including dogwoods, honeysuckles, and magnolia. The honey had a low pollen concentration suggesting that the bees were fed sugar-water last winter when nothing was in flower. The White House said they hoped to send future samples for analysis.