

Media/Research Updates:

Mercury in corn syrup? Food made with ingredient may have traces of toxic metal

By Michael Hawthorne | Tribune reporter
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A swig of soda or a bite of a candy bar might be sweet, but a new study suggests that food made with corn syrup also could be delivering tiny doses of toxic mercury.

For the first time, researchers say they have detected traces of the silvery metal in samples of high-fructose corn syrup, a widely used sweetener that has replaced sugar in many processed foods. The study was published Monday in the peer-reviewed journal *Environmental Health*. Eating high-mercury fish is the chief source of exposure for most people. The new study raises concerns about a previously unknown dietary source of mercury, which has been linked to learning disabilities in children and heart disease in adults. The source of the metal appears to be caustic soda and hydrochloric acid, which manufacturers of corn syrup use to help convert corn kernels into the food additive. A handful of plants across the nation still make the soda and acid by mixing a briny solution in electrified vats of mercury. Some of the toxic metal ends up in the final product, according to industry documents cited in the study.

Corn syrup manufacturers insisted their products are mercury-free. But the study said at least one maker of caustic soda that has used the mercury-based technology listed the corn syrup industry as a client. "This seems like an avoidable source of mercury that we didn't know was out there," said David Wallinga, one of the study's co-authors and a researcher at the Institute for Agriculture and Trade Policy, a Minnesota-based advocacy group. The researchers cautioned that their study was limited. Only 20 samples were analyzed; mercury was detected in nine.

Still, the impact of the findings could be significant. High-fructose corn syrup has become such a staple in processed foods that the average American consumes 12 teaspoons of it daily, according to federal estimates. Teenagers and children tend to

eat more of it than adults.

There is no established safe dose for elemental mercury, the type discovered in corn syrup. But the U.S. Environmental Protection Agency says an average-sized woman should limit her exposure to 5.5 micrograms a day of methylmercury, the kind found in fish. If that same woman regularly ate corn syrup contaminated at the highest level detected in the study—0.57 micrograms per gram—the researchers estimated that she could end up consuming an amount of mercury that is five times higher than the EPA's safe dose.

A former EPA scientist who reviewed the paper said more study is needed to establish the risk, if any, posed by contaminated corn syrup. She urged the Food and Drug Administration to conduct a review of food made with the sweetener.

"For the most part, previous studies haven't found mercury in foods other than fish," said Kathryn Mahaffey, who co-wrote a landmark report to Congress on the perils of mercury contamination. "Is this an outlier or something we didn't know about before?"

Most chlorine plants already have switched to mercury-free technology. In response to a 2005 Tribune series about mercury hazards, Barack Obama, then a U.S. senator, introduced legislation that would force others to phase out its use or shut down. A plant in Wisconsin later vowed to switch by this year, leaving four others—in Georgia, Ohio, Tennessee and West Virginia—that still use the older technology.

The new study's lead author, Renee Dufault, began her research while investigating the Wisconsin plant for the FDA in the mid-2000s. But her results weren't published until now, a year after she retired from the agency.

An FDA spokesman said he still was waiting for a response to the study. Industry representatives, meanwhile, said the study was outdated.

"It is important that Americans are provided accurate, science-based information," Audrae Erickson, president of the Corn Refiners Association, said in a statement. "They should know that high fructose corn syrup is safe."

In another statement, the Chlorine Institute, a chemical industry trade group, said, "It is conceivable that measurable mercury content can be found in high-fructose corn syrup regardless of how it is processed."

Focusing in on the environment

BY CHRISTOPHER BEHNAN • DAILY PRESS & ARGUS • FEBRUARY 6, 2009

If you let him, Luke Wheeler, 14, will discuss comic book hero Iron Man endlessly. Those of little patience might stop Wheeler midstream after two or three minutes. However, those who bother to listen will eventually learn Wheeler associates Iron Man with those who protect the Huron River, and the comic book hero's archnemesis with those who pollute it.

With that image in mind, Wheeler — who lives with autism — filmed "Luke Wheeler's Huron Watershed," a four-minute film the Pinckney Community High School freshman shot as a class project in one of teacher Tom Reason's earth science classes.

"It made me think about whether or not it would be Iron Monger against Iron Man," Wheeler said, adding that, in that scenario, he would be Iron Man and river polluters the evil Iron Monger.

His film, if it qualifies, will be played in March at the Millers Creek Film Festival in Ann Arbor. The Huron River Watershed Council runs the festival, which features films focused on water quality and conservation issues.

Wheeler has a slower thought process than most students, and often struggles to [communicate](#) clearly and relay stories in short order. Special [education](#) teacher April Woods places a timer in front of Wheeler when he's speaking in class, and politely tells him when it's time to allow other students to speak.

While not always cognizant of social situations, Wheeler was fully aware of the abundant praise his classmates and Reason bestowed upon him after his film was shown in class. "He said I did it so well he was, like, speechless after the movie," Wheeler recalled.

The process

Wheeler, like several other of Reason's students, filmed his movie independently, then downloaded it onto a school-issued laptop computer and edited it in class.

Wheeler shot his film in early November at three locations along the Huron River's chain of lakes that run through southern Livingston County. Throughout, he makes points relevant to his topic and asks his audience a host of rhetorical questions regarding care for the river system.

Reason said Wheeler's film captures the importance of care and appreciation for the river in remarkably attentive detail. "It was an awesome, awesome movie. His joy and his pride when the whole class was watching his movie — ecstatic doesn't even sum it up," Reason said, beaming. "He made a movie. It is professional. It is clear," he added.

Wheeler's natural talent behind the camera wouldn't be a surprise to those who work with autistic children.

Those diagnosed with autism often demonstrate extraordinary ability for specific talents, such as Rex Lewis-Clack, a Los Angeles youth labeled a "musical savant" for his mastery of the piano who was recently profiled on news magazine show "60 Minutes" on CBS.

"From looks and appearance, you wouldn't think he could produce it," Woods said of Wheeler's film.

It was Wheeler's first experience behind the camera, but likely not his last. While the action-packed blockbuster "Iron Man" made a lasting impression on him, he has a greater interest in documenting real-life issues and situations.

Teachers say Wheeler brings an often-needed boost of energy and levity to the classroom. He has attempted to take over instruction of Reason's class, but his teacher laughs about it.

Company updates: (w/ families)

- ✦ Remember, all hours missed need to be made up in the month they were missed to be eligible for the gas incentive.
- ✦ If not able to do so, the hours need to be made up within one month of the date missed.
- ✦ All tutors need to go to their original shifts first—there is no switching for another house no matter the reason.
- ✦ If you want extra hours please contact your Senior.

Jokes of the month:

Why does a flamingo lift up one leg ?

Because if he lifted up both legs it would fall over !

What is the most slippery country in the world ?

Greece !