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## DHA in 'Organic' Milk comes from Algae Fed Corn Syrup

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**Cornucopia's Take:** Researchers at The Cornucopia Institute discovered that large pharmaceutical companies, and milk bottlers like Dean Foods/Horizon, had quietly begun using an algae-based nutraceutical from Martek Biosciences in certified organic products (including infant formula (<https://www.cornucopia.org/replacing-mother-infant-formula-report/>) ) without approval.

Cornucopia filed a formal legal complaint which led to the exposure of this controversy. Although the USDA stated they would require manufacturers to take the illegal compounds out of their food until they received approval, corrupt management at the National Organic Program has allowed the practice to continue.

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### How millions of cartons of 'organic' milk contain an oil brewed in industrial vats of algae

The Washington Post ([https://www.washingtonpost.com/news/wonk/wp/2017/06/05/how-millions-of-cartons-of-organic-milk-contain-an-oil-brewed-in-industrial-vats-of-algae/?utm\\_term=.074d278b01e6](https://www.washingtonpost.com/news/wonk/wp/2017/06/05/how-millions-of-cartons-of-organic-milk-contain-an-oil-brewed-in-industrial-vats-of-algae/?utm_term=.074d278b01e6))

by Peter Whoriskey

Inside a South Carolina factory, in industrial vats that stand five stories high, batches of algae are carefully tended, kept warm and fed corn syrup. There the algae, known as Schizochytrium, multiply quickly. The payoff, which comes after processing, is a substance that resembles corn oil. It tastes faintly fishy.

Marketed as a nutritional enhancement, the oil is added to millions of cartons of organic milk from Horizon, one of the nation's largest organic brands. Rich in Omega-3 fatty acids, the oil allows Horizon to advertise health benefits and charge a higher price.

"DHA Omega-3 Supports Brain Health," according to the Horizon cartons sold in supermarkets around the United States.

What the Horizon milk carton doesn't advertise is that some of its contents were brewed in closed stainless steel vats of Schizochytrium. This omission avoids any *ick* reaction from shoppers, but consumer advocates say it also dodges a key question: Is milk supplemented with an oil brewed in a factory really "organic"?

"We do not think that [the oil] belongs in organic foods," said Charlotte Vallaey, a senior policy analyst, at Consumer Reports. "When an organic milk carton says it has higher levels of beneficial nutrients, like omega-3 fats, consumers want that to be the result of good farming practices ... not from additives made in a factory."

Exactly what should be considered an "organic" food? A closer look at how the oil winds up in organic milk offers insight into how the U.S. Department of Agriculture determines what foods may be sold with its coveted "USDA Organic" seal, a label that can double a product's price. At least in part, it's a lobbying tug-of-war: On one side, many companies, seeking to maximize sales, push the USDA for an expansive definition of "organic." On the other, consumer groups advocate for a narrower, "purer," definition.

In deciding to allow the use of the oil and similar additives, USDA officials, at least initially, misread federal regulations. In 2012, five years after the algal oil was introduced into milk, it quietly acknowledged that some federal regulations had been "incorrectly interpreted." The USDA then maintained the status quo — allowing the use of algal oil, among other things — in order not to "disrupt" the market.

Asked this month about the issue, a USDA spokesman declined to address the confusion saying that current regulations have been "interpreted to allow for the use of ... (DHA) algal oil in organic processed products."

Whatever the legalities, the Horizon milk with the DHA algal oil is popular. In the past year, consumers bought more than 26 million gallons of the milk supplemented with the DHA, according to Horizon, representing 14 percent of all organic milk gallons sold. Retail sales of the milk topped \$250 million in the past year, the company said. The Horizon milk with DHA typically costs about 30 cents more than plain Horizon milk.

"Millions of people choose our Horizon Organic milk with DHA Omega-3 for the added benefits DHA Omega-3s are thought to deliver," a Horizon spokesperson said in a statement, which says the additive may improve heart, brain and eye health.

To critics, though, the popularity is based on a misconception of what is and isn't organic. They argue that supplementing "USDA Organic" products with algal oil betrays consumer expectations that organic foods need no laboratory-inspired razzle-dazzle, and that the nutrients in organic products are good enough without additives.

“Additives just don’t have any place in organics at all,” said Barry Flamm, former chair of the National Organic Standards Board, which makes recommendations to the USDA. “You might say additives should be allowed for health reasons, but I never saw an additive that you couldn’t get in real foods.”

Indeed, when milk is produced by grass-fed cows — as required by organic regulations — it contains substantially more Omega-3 fatty acids than conventional milk, as recent testing conducted by The Post shows ([https://www.washingtonpost.com/business/economy/why-your-organic-milk-may-not-be-organic/2017/05/01/708ce5bc-ed76-11e6-9662-6eedf1627882\\_story.html?utm\\_term=.40067033bbb2](https://www.washingtonpost.com/business/economy/why-your-organic-milk-may-not-be-organic/2017/05/01/708ce5bc-ed76-11e6-9662-6eedf1627882_story.html?utm_term=.40067033bbb2)) .

Some companies, like Horizon, nevertheless like to boost their Omega-3 claims using algal oil.

Costco does something similar with its Kirkland brand “organic” milk. It adds “refined fish oil” to the milk and boasts of high-levels of Omega-3 fats. But Costco acquires much of that milk from Aurora, a mega-dairy of 15,000 cows in Colorado. According to The Post’s nutrient analysis, without supplementation, Aurora milk lagged behind other organic milks in the amount of Omega-3s.

Costco did not respond to questions about the fish oil additive.

The idea for creating the DHA algal oil that goes into Horizon milk is credited in part to Bill Barclay, a scientist whose quest, in many ways, was as idealistic as those who champion organics. He, too, aimed to remedy the modern diet.

For years, a group of scientists had argued that contemporary meals were lacking in substances known as Omega-3 fatty acids, which are commonly found in larger amounts in fatty fish and grazing animals. Since so many farm animals are fed a grain diet and no longer graze — a practice that leads to more Omega-3s in their meat and milk — these scientists argued that supplementing modern diets with more Omega-3s would provide health benefits.

While recent studies have indicated the Omega-3 supplementation does not produce measurable health benefits, the argument among some scientists continues, and many people still turn to fish oil pills to goose up their Omega-3 consumption.

“In the ’70s and ’80s, there was a lot of medical data that DHA could have a significant impact on human health,” Barclay recalled in a phone interview.

Fish oil pills had taste and odor problems, as Barclay noted, so he set out to find an alternative source of Omega-3s. He quickly turned to algae. The challenge was finding a strain that was commercially suitable — one that would grow fast and yield the oil. He persuaded his wife to allow him to take out \$25,000 from their mortgage and take a year to lay the groundwork for a business.

Somewhere on the coast of Southern California — he won't say where — Barclay came upon the Schizochytrium. While lots of algae replicate just once a day, this strain, when fed properly, could replicate five to nine times a day. Others, too, had been looking at algae as a way of feeding NASA astronauts in space.

DSM, which has succeeded Barclay's start-up, now produces the algal oil and has sold it for use in milk, cheeses, yogurt, cereals and protein bars. When destined for food products, the oil is processed without the use of harsh solvents such as hexane, the company said.

The oil is vegetarian, sustainable and "does not contribute to overfishing," DSM said in a statement. "We highly value our organic partners and believe that our products are consistent with the important values of the organic industry, including health and nutrition, quality, and sustainability."

After Horizon began selling the organic milk supplemented with the algal oil in 2007, sales took off.

There was just one problem. The additive might have violated organic regulations.

In January 2012, after five years of sales, the USDA issued a complicated notice in the Federal Register explaining that the USDA's National Organic Program had "incorrectly interpreted" some federal regulations. The result was that some supplements to organic products had been allowed that shouldn't have been. Among those allowed by mistake was DHA algal oil.

"Examples of ingredients added to organic products which are outside [the regulation] include certain forms of DHA ... in fluid milk and dairy products," it said.

Several months later, the USDA issued a new "interim" rule regarding the supplements for organic products. Its intention, the USDA said, was to "provide continuity to the organic industry" and to avoid "widespread disruption."

In ruling at least temporarily in favor of algal oil and other additives, the USDA noted that an advisory board had recommended to allow the oil's use in organic products.

"This action enables the industry to continue with the status quo until additional public comments are received and a final rule is published," the USDA said.

Almost five years later, the status quo continues. A final rule has not been published.

That leaves consumers buying an "organic" milk supplemented with algal oil, though many likely don't know that stainless steel vats of Schizochytrium are the source of the Omega-3s in the milk. According to Consumer Reports surveys, 7 out of 10 consumers think the USDA should not permit the use of non-organic ingredients in organic food production if they are not deemed

essential, Vallaeys said. The USDA position means that millions of people buying milk may be getting something different than the “USDA Organic” seal seems to promise.

“Algal oil is one of several nutrient additives that have not gone through this proper review and approval process,” Vallaeys said. “It’s very disappointing that we have yet to see proper enforcement action from the National Organic Program on this issue.”

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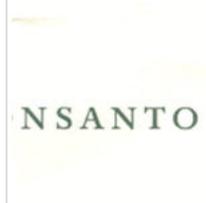


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