

Scientists can identify organic and conventional milk with a simple chemistry test

Food fraud is a substantial problem....because it is nearly impossible for consumers to tell the difference between, say, conventional and organic crops. That's how [three farmers in Nebraska](#) were able to get away with selling conventional soybeans and corn as organic for seven years before they were finally caught.

Though consumers and regulators may be easy to fool, it is exceedingly difficult to trick scientists. A new paper in the [Journal of Agricultural and Food Chemistry](#) shows how chemists can use isotope analysis to discriminate between conventional and organic milk.

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Isotopes are atoms of the same element....that have different numbers of neutrons....Though isotopes are chemically identical, they can be easily detected by chemists in the laboratory.

Furthermore, the isotope ratios (e.g., the ratio of carbon-13 to carbon-12) in a given sample can serve as a unique fingerprint. In this case, because cows raised on conventional or organic diets are fed different plants, the isotope ratios in their milk should be different.

And that's exactly what [the researchers] found. As shown, linoleic acid and myristic acid — both types of fatty acids — had discernibly different isotopic signatures....

Read full, original article: [Chemists Can Determine If Organic Milk Is Fraudulent](#)