

How technology will fight food fraud

October 17 2017, by Sylvain Charlebois

[Food fraud is everywhere](#). In the aftermath of the [horsemeat scandal](#) in Europe, and with cases reported [around the world](#), including [in Canada](#), [awareness is high](#).

Dalhousie University recently released a study on [food fraud](#) and the results were surprising: A whopping 63 per cent of Canadians are generally concerned about food fraud. Worse still, more than [40 per cent of Canadians feel they have been victims of food fraud](#) already. These are alarming results that can't be ignored.

Food fraud can take many forms. It can include adulteration—substituting one ingredient with a much cheaper one—or misrepresentation, which may include selling a product as organic when it is not.

Canadian food fraud cases abound

Food categories that are more vulnerable to food fraud are fish, seafood, liquids, spices, fruits, vegetables and meat products. Canada has seen its share of cases in recent months, one of the most notable ones is [Mucci Farms](#) in southwestern Ontario, near the tip of Lake Erie. The company was fined \$1.5 million for selling Mexican tomatoes as a product of Canada. Mucci Farms denies that the labelling was intentional and faults their computer system.

Other cases have emerged through whistleblowers trying to draw attention to food fraud. [Cericola Farms, one of the largest poultry](#)

[processors](#) in the country, was charged with fraud last year over allegations of organic mislabelling.

[The number of cases is adding up.](#) The Canadian Food Inspection Agency has received over 40 complaints in 2016 and industry observers expect that number to increase in 2017.

Serious health and economic risks

Some may believe that food fraud is a victimless crime. This is not so. What is at stake is the entire food economy.

For any food business to grow and offer high-quality food products, it requires consumer trust. If trust is lost then everything the industry is trying to accomplish will become more challenging. Why would [consumers](#) pay more for a product they may deem fraudulent?

The majority of [food companies](#) are ethically sound, but you only need a few cases to damage the reputation of an entire industry.

Most importantly, the Dalhousie study suggests that consumers with allergies or intolerances to particular foods are likely to feel more vulnerable than other consumers when thinking of food fraud. Consequently, food fraud is as much a socioeconomic issue as it is one of public health.

Technology a partial solution

[Grocers](#) have made recent [investments in blockchain](#) technologies that provide a tool to detect products that may pose as counterfeit.

But these measures can only do so much. Companies can't really report

fraudulent rivals for fear of retaliation—food companies denouncing fraudulent cases are themselves accused of food fraud. They can't win.

Regulators would have to sample-test everything, which would be operationally impractical and, frankly, impossible. Public regulators have been aware of the issue for quite some time but have struggled to find any solutions to address the issue.

A few provinces, including Ontario, have created provincewide [committees on food integrity](#) to work with [industry](#) in finding fraudulent cases. However, their work will take a while before we see anything new.

Exercise caution

Meanwhile, consumers should shop for food and visit restaurants with extreme prejudice. Consumers should look for consistencies in pricing and quality. If a food product is much cheaper at one outlet, perhaps the deal is too good to be true. Consumers should also ask pointed questions about procurement strategies to retailers and restaurant operators to make the supply chain more transparent to them.

But humans are humans and food fraud has been going on for more than 2,000 years. The first known reported cases go back to the Roman Empire when suspicions around adulterated wines and oils were prevalent. Today, however, we have technologies allowing us to detect fraudulent behaviour.

Companies and research centres from around the world are currently developing portable technologies that allow consumers themselves to validate the content of food labels. Imagine testing your own products at home to see if that apple is really from Ontario or that olive oil is really from Italy. The technology exists, but costs are prohibitive. Some of these devices can cost more than \$200,000.

One day though, consumers empowered by these technologies will become the most powerful regulators the [food industry](#) can ever imagine. Knowing that consumers can ultimately test the integrity of any product, the entire [food supply chain](#) will need to be more disciplined and the rotten apples will need to go, no pun intended.

Over time, humans themselves may not get rid of [food fraud](#) but technology will.

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