

Introducing the **SCIEX Food Fraud Guide**

Tackle Food Fraud with this informative Guide using the buttons below to navigate your way through, and discover the latest trends and tools for your organization.

Defining Food Fraud

Some of the earliest documented cases of food fraud concern spice traders of the middle ages who would routinely bulk out their expensive ware with inexpensive adulterants such as nutshells and seeds. There has always been big money to be made in replacing high quality, high value ingredients with cheap substitutes. Food is a basic necessity for life and in modern times it is produced, harvested, processed, formulated, packaged, and transported through an interconnected, global, network. With food products frequently crisscrossing international boundaries, regulators struggle to trace adulterated ingredients consistently and safeguard the food supply chain.



Food Fraud Global Problems

AMERICAS

- 01 Bolivia – 2016 – Sardines** – Thousands of cans of sardines were found alongside fake labels, ready to be applied, for a famous Peruvian brand.
- 02 Colombia – 2017 – Sugar** – 850 kg of panela (unrefined whole cane sugar) was found to be adulterated with hazardous levels of sulfur dioxide, making the panela appear fresher.
- 03 Canada – 2017 – Sausages** – A study commissioned by the Canadian Food Inspection Agency (CFIA) found that of 15 tested “turkey” sausages, five were made of 100% chicken.
- 04 USA – 2016 – Dietary supplements** – Between 2007-2016, the FDA’s Tainted Supplements database included 781 cases of products with unapproved ingredients; 97.6% of unapproved ingredients were not declared on the label.

EUROPE

- 05 Germany – 2017 – Hazelnuts** – German authorities analyzing chopped hazelnuts and hazelnut paste detected up to 45% of undeclared peanuts, almonds or cashews in the products.
- 06 Russia – 2016 – Butter** – A market study showed that 78% of all cheese samples tested were falsified. Some product samples replaced milk fat with cheaper palm oil substitute.
- 07 Denmark – 2017 – Olive oil** – Authorities analyzing grocery store samples to check labeling compliance found that many of the “virgin olive oils” tested were in fact blends, or lampante oil.
- 08 Italy – 2017 – Mineral water** – Italian authorities seized over 30,000 bottles of mineral water that imitated a premium brand, with labels and shapes that were similar to the genuine product.
- 09 UK – 2013 – Meat** – Foods advertised as containing beef were found to contain undeclared horse meat – as much as 100% of the meat content in some cases.

AFRICA

- 10 Nigeria – 2016 – Milk powder** – National authorities arrested a man involved in the production and sale of fake branded powdered milk in Calabar metropolis.
- 11 Kenya – 2018 – Meat** – Investigations have revealed that some butchers adulterated meat with undeclared allergenic sodium metabisulfite, in order to give it a long-lasting fresh, red colour.
- 12 Zambia – 2017 – Whisky** – Customs Officials halted a shipment of fake branded alcohol bottles imported from the USA. The inventory seized included almost exact imitations of renowned brands.

JAPAN ASIA PACIFIC AND CHINA

- 13 Bangladesh – 2016 – Turmeric** – Turmeric was found to be adulterated with lead chromate used to enhance the yellow color, leading to poisoned children in Bangladesh and major recalls in the US.
- 14 Indonesia – 2016 – Chicken** – Officials seized 70kg of chicken intestines intended for distribution that had been preserved in formalin, which is highly toxic and prohibited as a food additive.
- 15 South Korea – 2016 – Food supplements** – Police arrested a man smuggling dietary supplements to be sold online as a natural product, but which in fact contained non-natural, harmful ingredients.
- 16 China – 2008 – Baby formula** – A scandal involving milk and infant formula, along with other food materials, being adulterated with melamine, lead to widespread public health concerns.
- 17 Australia – 2018 – Honey** – A study that tested 38 locally-sourced honey samples found that 18% were subject to adulteration with inexpensive substitutes.



Technology and Software

The latest software offering from SCIEX – SCIEX OS – comes with features that simplify and accelerate the fight against food fraud. In order to meet the needs of labs fighting against food fraud, SCIEX has designed and developed some of the most advanced mass spectrometers in the industry. Through in-house research in a variety of contexts, SCIEX has repeatedly shown that its technologies can deliver reliable and accurate results with the speed and simplicity required by modern testing labs. Here we present an overview of the latest SCIEX technologies, many of which are specifically designed to address the challenges involved in combatting food fraud.

Further Reading



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