CHAPTER 1

Addressing illicit trade in food and food fraud

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Abstract

The WTO rulebook can be used by members in the fight against illicit trade in food and food fraud, in particular the Agreement on the Application of Sanitary and Phytosanitary Measures (SPS Agreement) and the Agreement on Technical Barriers to Trade (TBT Agreement).

This chapter explores the various definitions of food fraud, providing an overview of the main food products that have been the target of fraud, and the most notable incidents that have arisen over the past two decades. Building on the outcomes of the WTO's Annual Agriculture Symposium in December 2023 dedicated to this topic, the chapter asks whether it is time for a more explicit conversation at the WTO.

Definition of food fraud and illicit trade in food

From food fraud to the large-scale smuggling of agriculture products, illicit trade in agri-foods undermines farming and the global food trade system, destabilizes rural economies and jeopardizes the production and delivery of fair, safe and sustainable food supplies. The Transnational Alliance to Combat Illicit Trade (TRACIT, 2019) defines food fraud as the intentional substitution or dilution of an authentic food or ingredient with a cheaper product (such as replacing extra virgin olive oil with a cheaper oil), flavour or colour enhancement using illicit or unapproved substances, or substitution of one species with another. Fake infant milk powder and dangerously recycled vegetable oils are examples of how adulterated food supplies can contribute to malnutrition and undermine health.

The smuggling of agriculture products also forms part of TRACIT's definition of illicit food trade. Smuggling is typically driven by a disparity between the price of a good at its origin and its destination where it may be prohibited, or by price differentials deriving from government subsidies (TRACIT, 2019). The smuggling of sugar, tea and cocoa, for example, destabilizes food supplies and erodes the sustainability of the underlying legal industries.

However, there is no internationally harmonized legal definition of food fraud or of illicit trade in food, and creating one is beyond the scope of this publication. Different jurisdictions have adopted different definitions of food fraud, specifically, based on the scope of the problem they aim to tackle. While some jurisdictions regulate food fraud within the framework of food safety and quality legislation, including rules on standard-setting, labelling and quality control, consumer protection legislation and strategies have offered other avenues for governments and food companies to protect consumers from food fraud. Contract law has also provided an entry-point for the prevention of fraudulent or other illicit practices by the different actors involved in the food supply chain.

For example, the United States Food and Drug Administration states that economically motivated adulteration (EMA) in the case of food fraud occurs "when someone intentionally leaves out, takes out, or substitutes a valuable ingredient or part of a food" or "when someone adds a substance to a food to make it appear better or of greater value."[1] Other types of EMA include misbranding violations and adulteration of other products, such as animal food and cosmetics.

This differs somewhat from the definition of the European Union which considers food fraud to be a "suspected intentional action by businesses or individuals for the purpose of deceiving purchasers and gaining undue advantage there from, in violation of the rules referred to in Article 1(2) of Regulation (EU) 2017/625" on EU agri-food chains.[2]

Currently, the Codex Alimentarius Commission is developing a new guidance document on food fraud that is expected to be published in 2024 or 2025. It aims to develop definitions and update the existing instruments of Codex to address horizontal and cross-cutting issues.[3]

An important existing instrument is the Codex Code of Ethics for International Trade in Food including Concessional and Food Aid Transactions, which dates back to 1979 (see Box 1). The WTO does not itself define the concept of illicit trade in food or food fraud, despite providing numerous legal instruments that aid WTO members every day in combating the phenomenon (see Chapter 2).

At present, the most well-known and widely accepted definition of food fraud is by Spink and Moyer (2011):

> "Food fraud is a collective term used to encompass the deliberate and intentional substitution, addition, tampering, or misrepresentation of food, food ingredients, or food packaging; or false or misleading statements made about a product, for economic gain."

It acts as a core definition that captures the main fraudulent practices in the agri-food sector.[4]

BOX 1

Codex Alimentarius Commission: Code of Ethics for International Trade in Food

The main principles of the Code of Ethics for International Trade in Food are articulated in Article 3 (Principles):

3.1 International trade in food should be conducted on the principle that all consumers are entitled to safe, sound and wholesome food and to protection from unfair trade practices.

3.2 No food (including re-exported food) should be in international trade which:

(a) has in or upon it any hazard in an amount which renders it poisonous, harmful or otherwise injurious to health, taking into account the application of risk analysis principles;

(b) consists in whole or in part of any filthy, putrid, rotten, decomposed or other substance or foreign matter which renders it unfit for human consumption;

(c) is adulterated;

(d) is labelled or presented in a manner that is false, misleading or deceptive;

(e) is prepared, processed, packaged, stored, transported or marketed under unsanitary conditions;

(f) has an expiration date, where applicable, which does not leave sufficient time for distribution in the importing country.

Source: Code of Ethics for International Trade in Food Including Concessional and Food Aid Transactions, CAC document CAC/RCP 20-1979, available at https://www.fao.org/fao-who-codexalimentarius/committees/committee/related-standards/en/?committee=CCGP.

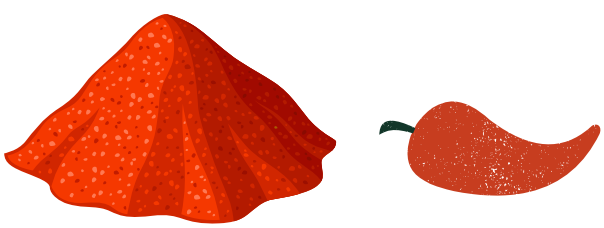
Globalization, supply chains and the cost to agri-food trade

With different definitions in use, the problem of illicit trade in food and food fraud is hard to quantify. Moreover, greater research on the scale and impact of the problem is urgently required. Some of the most authoritative numbers, however, have been generated by TRACIT based on its own definition of the phenomenon (see above). TRACIT reports in Chapter 3 that fake, substandard, smuggled and illegal agri-foods cost the global food industry an estimated US$ 30-50 billion per year (which does not include losses associated with illicit trade in alcoholic beverages).

TRACIT (2019) provides powerful examples at the economy and product level. For example, in the 2017 planting season, the Côte d'Ivoire lost about 125,000 tonnes of cocoa to smuggling. Equivalent to 9 per cent of its harvest, this was a significant loss in a country where cocoa accounts for 20 per cent of exports.

Moving to the product level, a 2018 study by Euromonitor International on 24 countries in Africa, Eastern Europe and Latin America estimated that of the 4.23 billion litres of pure alcohol consumed each year, 25.8 per cent was illicit.[5]

Experts' views differ on the extent to which international trade, and long supply chains, exacerbate the phenomenon. Some experts argue that the more food "changes hands", the higher the risk of fraud (Sampson, 2017). Ehmke *et al*. (2019: 688) also contend that globalization can be an aggravator and find that food ingredients may be sourced "via complex networks of brokers and distributors who, themselves, could have little knowledge of or accountability for the products they handle". Furthermore:



> "
>
> Fake, substandard, smuggled and illegal agri-foods cost the global food industry an estimated US$ 30-50 billion per year.

> "While economic incentives are always present, fraud may flourish when products are sourced from or shipped via countries with weak or insufficiently enforced domestic regulations or poorly structured legal systems. The international trade of food products increases fraud potential due to lack of preventative legal strategies, extended supply chains and increased difficulty identifying the source of fraud."

In a report published by the Food and Agriculture Organization of the United Nations and the University of California, Los Angeles, Roberts *et al*. (2022: 32) counter that "although complex and global supply chains have been implicated in notable cases of food fraud, locally manufactured and sold foods can be as much at risk." This will continue therefore to be an issue for debate.

What is clear is that food fraud increases agri-food trade costs. Higher incidences of food fraud put greater burdens on border inspection, testing and control, and related domestic food safety and quality rules and regulations. Although customs authorities and law enforcement are actively combating illicit trade (see Box 2), Ehmke *et al*. (2019) find that border inspection procedures in major developed economy markets are moving from response-focused to prevention-focused models as the most effective way to fight such crime.

Fraud also has the economic and trade impact of tarnishing the reputation of all similar products with a product category (such as adulterated cumin impacting all other spices), tarnishing the reputation of sellers, and reducing consumer confidence in how markets operate. Examples of the most heavily targeted products in fraud are given in Box 3, and some of the most prominent cases uncovered since 2008 are provided in Box 4.

BOX 2

Customs authorities and law enforcement

World Customs Organization

The World Customs Organization reported a 30 per cent increase in the number of alcohol trafficking cases in 2022 compared to 2021. The majority of which was wine and grape distilled products.

European Union Agency for Law Enforcement Cooperation

Operation OPSON Europe, which takes its name from the ancient Greek word for food, was coordinated by the European Union Agency for Law Enforcement Cooperation (Europol) and took place between December 2022 and April 2023.

The seizures reported to Europol were worth €30 million and included 6.5 million litres of beverages (mostly alcoholic) and 8,000 tonnes of illicit products, such as (in order of quantity):

- cereals, grains and derived products;
- fruits, vegetables and legumes;
- sweet and sugary products;
- meat and meat products;
- seafood;
- dairy products;
- food supplements and additives.

Source: See WCO (2023) and https://www.europol.europa.eu/media-press/newsroom/news/eur-30-million-worth-of-seizures-in-first-opson-europe.

BOX 3

Most heavily targeted products in food fraud

Product	Global trade value in 2021*
Meat Meat is subject to substitution and mislabelling, where cheaper or lower-quality meats are sold as higher-priced or higher-quality ones. For example, horse meat may be sold as beef.	**US$ 168 bn**
Seafood Seafood is a high-value product that is subject to substitution and mislabelling, where lower-priced fish species may be labelled as more expensive ones, or farmed fish may be sold as wild-caught.	**US$ 160 bn**
Alcoholic beverages Spirits and wine are high-value products that are subject to counterfeiting and smuggling, where cheaper, fake or adulterated versions are sold as more expensive ones. Mislabelling of the origin or vintage can also occur. According to the World Spirits Alliance (WSA, 2022), around US$ 8.9 billion of fiscal revenue is lost every year due to illicit alcohol.	**US$ 98 bn**
Coffee Coffee is a popular and valuable product that is subject to food fraud with cheaper ingredients such as corn, soybeans or twigs often added. Mislabelling of origin or type of bean can also occur.	**US$ 42 bn**
Milk Milk is subject to food fraud with the injection of water or other substances to increase volume and reduce cost. This can lead to a decrease in quality and safety.	**US$ 31 bn**
Fruit and vegetable juice Fruit and vegetable juice is subject to dilution with water or other juices to increase volume and reduce cost. Mislabelling of origin or type of fruit and vegetable can also occur.	**US$ 15 bn**
Spices Spices are subject to food fraud with the use of cheaper ingredients, such as fillers or artificial colours. For example, turmeric is sometimes adulterated with lead chromate, a toxic substance.	**US$ 13 bn**

Olive oil Olive oil is a popular and expensive product that is subject to food fraud with the use of cheaper oils, such as sunflower or canola oil, or shortcuts in the manufacturing of extra virgin olive oil. This can lead to a decrease in quality and nutritional value.	**US$ 9 bn**
Honey Honey is a valuable product that is subject to dilution with cheaper sweeteners, such as corn syrup or sugar. Mislabelling of origin or floral source can also occur.	**US$ 3 bn**
Organic products Organic products are subject to mislabelling and fraud, where non-organic products are sold as organic ones. This can lead to consumer deception and harm the reputation of the organic industry. It is hard to pin down the exact value of world trade in organic products, as definitions of such products vary.	**Indetermined**

Source: Adapted from https://www.inecta.com/blog/5-biggest-food-fraud-cases#:~:text=Here%20are%20some%20examples%20of,be%20sold%20as%20wild%2Dcaught. * WTO Secretariat data.

BOX 4

Examples of illicit trade in food

Relabelling expired food and beverages (2023)

The unveiling of criminal gangs in Italy and Latvia resulted in the arrest of 27 criminals, who relabelled expired food and beverages to give the false appearance the products were fresh and safe for consumption. By exploiting vulnerabilities in the supply chain caused by the COVID-19 pandemic, the gangs acquired millions of food products at little to no cost.*

Adulterated honey (2018)

Honey was imported into Canada, where it was laundered and sold as Canadian honey. The investigation revealed that some of the honey advertised as pure honey was adulterated with corn syrup, rice syrup and sugar cane syrup. The incident highlighted the complexity of the global honey supply chain and the risks for fraud.

Olive oil fraud (2016)

This incident involved the mislabelling of lower-grade oil as extra virgin olive oil in Spain. The investigation revealed that some products contained up to 80 per cent of lower-grade oil, with the rest being composed of additives and artificial colours. The incident led to a crackdown on olive oil fraud in Spain and increased awareness of the issue among consumers and regulators.

Adulterated Parmesan cheese (2016)

Cellulose, a wood-based filler, was discovered in Parmesan cheese sold in the United States. The investigation revealed that some products contained as little as 2 per cent of actual Parmesan cheese, with the rest being composed of fillers and other additives. The incident highlighted the vulnerability of the food supply chain to economically motivated adulteration and the need for more stringent testing and labelling requirements.

Horsemeat fraud (2013)

Horsemeat was discovered in beef products sold across Europe. The scandal originated in Ireland and spread to other countries, leading to a recall of millions of products and significant financial losses for the industry. The incident highlighted the vulnerability of the global food industry to fraud and the importance of traceability and transparency in food production.

Adulterated infant milk (2008)

Infant formula was adulterated with melamine in China, a toxic substance used to boost protein levels in the product. The scandal led to the hospitalization of thousands of infants and some deaths. The incident highlighted the need for stronger regulatory oversight and stricter penalties for food fraud.

Source: Adapted from https://www.inecta.com/blog/5-biggest-food-fraud-cases#:~:text=Here%20are%20some%20examples%20of,be%20sold%20as%20wild%2Dcaught. * See https://www.europol.europa.eu/media-press/newsroom/news/27-food-fraudsters-arrested-in-lithuania-and-italy.

WTO activities to address illicit trade in food and food fraud

WTO's Annual Agriculture Symposium, December 2023

The Annual Agriculture Symposium, held virtually on 11 and 12 December, was dedicated to combating illicit trade in food and food fraud.[6] The Symposium brought together trade negotiators, experts in combating food fraud, international organizations, businesses, civil society and academics to improve understanding of illegal trade, and how the WTO rulebook could contribute to tackling illegal practices. The three thematic sessions included:

- Session 1: Food fraud – emerging issues and future trends
- Session 2: Business perspective
- Session 3: Assessing food fraud in the global supply chain

The experts recognized the difficulty in establishing a universal definition of the phenomenon but underlined that a broad definition of food crime could extend to issues such as the illegal slaughter of livestock (e.g. fraudulent labelling for halal or kosher products), harvesting food and livestock from protected lands, illegal underreported and unregulated fishing[7] and the use of child and illegal migrant labour to harvest or produce food. These are issues that clearly go beyond the core definition previously discussed above.

Since food fraud techniques evolve and illicit trade occurs along the entire food supply chain, experts stressed the need to see food fraud as a continuum along the supply chain and to study the weakest links along the chain, identifying vulnerabilities and potential entry points by fraudsters. The Symposium demonstrated that the problem of illicit trade in food and food fraud is compounded by illegal trade in seeds, agrochemicals and pesticides, which play an integral role in minimizing crop losses and increasing yields – contributing to sustainable agricultural practices and global food security. According to estimates by participants, the share of illegal pesticides on the global pesticide market is as high as 25 per cent.

> "By definition, our DNA is legal trade. Strengthening the WTO is the first way to combat illicit trade."
>
> **WTO Deputy Director-General Jean-Marie Paugam, speaking during the Opening Session**

> "We cannot test our way out of food fraud. Collaboration between all parties with relevant stakes is key to fraud prevention and control."
>
> **Quincy Lissaur, SSAFE Executive Director, speaking during Session 1**

When examining the issue from regional and development perspectives, experts said that the training of customs officials and international collaboration could help to tackle food fraud. The driving factors for illegal trade in many regions include:

- the lack of legal instruments and border controls;
- long and porous borders between countries that offer multiple points of penetration by smugglers and fraudsters;
- weakly regulated informal economies;
- a large, lucrative consumer base;
- high levels of poverty driving demand for cheap food.

The United Nations Interregional Crime and Justice Research Institute (UNICRI) spoke of the strong links between organized crime and food fraud and stressed the importance of technology and artificial intelligence in fighting crime. Cyber-patrols could scan the web for suspicious offerings and platforms. The food processing sector was becoming particularly problematic, with fraud harder to detect in more complex and processed foods, it added.

Experts were unanimous that the best way to combat food crime lies in crime prevention. Governments have finite resources, with prevention being more cost effective. However, the clandestine nature of food crime means that governments find it difficult to model solutions for what they do not know exists. The same applies to the use of Big Data to fight food fraud, which have little value if regulators do not know what they are looking for. Although cryptocurrencies might be used in food crime, blockchain technology could help to prevent food fraud.

WTO legal framework for the international trade in food

Speaking at the Symposium, WTO Deputy Director-General Jean-Marie Paugam emphasized that the WTO rulebook brings a legal framework to international trade in food, helping to combat illicit trade.

Highlighting the WTO's unique role in promoting open and legal trade, DDG Paugam said WTO rules allow members to exercise control over their borders and enforce their trade laws, leaving less room for illegal trade.

While several WTO agreements can contribute to catching fraud once it occurs, such as through the application of the control, inspection and approval procedures of the WTO's Agreement on the Application of Sanitary and Phytosanitary Measures (SPS) and the conformity assessment procedures of the Agreement on Technical Barriers to Trade (TBT), a useful exercise for the WTO could be to identify the rules that could boost prevention, he said. Of course, catching fraud can deter further fraud from occurring. However, certain additional steps could help to eliminate the opportunities for fraud.

> "While the WTO toolbox is already comprehensive, the WTO can do more to address food fraud – which is an issue that impacts the entire global food system.
>
> **H.E. Ambassador Nadia Theodore, Permanent Representative of Canada to the WTO, speaking during the Closing Session**

For examples, fully utilizing the WTO's Trade Facilitation Agreement would help to eliminate excessively cumbersome customs procedures and red tape at borders that present opportunities for exploitation by fraudsters and smuggling. Members could also consider holding discussions within the SPS and TBT Committees on the new guidance document that the Codex Alimentarius Commission is developing on food fraud that is expected to be published in 2024/2025.[8] Ongoing WTO agriculture negotiations, which aim to reduce trade-distorting subsidies and to address import and export restrictions, among other things, could help to reduce the incentives for smuggling and illegal trade.

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Endnotes

1. See https://www.fda.gov/food/compliance-enforcement-food/economically-motivated-adulteration-food-fraud#:~:text=Economically%20motivated%20adulteration%20(EMA)%20occurs,better%20or%20of%20greater%20value..
2. See https://eur-lex.europa.eu/eli/reg_impl/2019/1715/oj. Article 1(2) of Regulation (EU) 2017/625 (see https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A32017R0625) covers a broad scope of rules, including, *inter alia*, food/feed safety rules, animal health and welfare requirements, organic production and labelling of organic products, and use and labelling of protected designation of origin and geographical indications (see also Li *et al*., 2023).
3. *Proposed Draft Guidelines on the Prevention and Control of Food Fraud*, CAC document CX/FICS 23/26/6, 27 March 2023.
4. See also the International Organization for Standardization (ISO) Standard ISO 22380:2018, *Security and Resilience: Authenticity, Integrity and Trust for Products and Documents – General Principles for Product Fraud Risk and Countermeasures*, which "establishes general principles for an organization to identify the risks related to various types of product fraud and product fraudsters" and it "provides guidance on how organizations can establish strategic, business countermeasures to prevent or reduce any harm, tangible or intangible loss and cost from such fraudulent attacks in a cost-effective manner." ISO 22380:2018 defines the types of food fraud as: adulterant-substances (dilution, substitution, concealment and unapproved enhancements); mislabeling and misbranding; gray market or parallel trade; smuggling; theft; simulation; production over-run; and intellectual property rights counterfeiting.
5. Countries in Africa included Ghana, Malawi, Mozambique, Nigeria, South Africa, Tanzania, Uganda and Zambia. Countries in Eastern Europe included the Czech Republic and the Russian Federation. Countries in Latin America included Argentina, the Plurinational State of Bolivia, Chile, Colombia, the Dominican Republic, Ecuador, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama, Paraguay and Peru. See also WSA (2022).
6. See https://www.wto.org/english/tratop_e/agric_e/agri_11122023_e/agri_11122023_e.htm.
7. Adopted by consensus at the WTO's 12th Ministerial Conference in June 2022, the Agreement on Fisheries Subsidies sets new, binding, multilateral rules to curb harmful subsidies, which are a key factor in the widespread depletion of the world's fish stocks.
8. *Proposed Draft Guidelines on the Prevention and Control of Food Fraud*, CAC document CX/FICS 23/26/6, 27 March 2023.