

TACKLING FOOD FRAUD THROUGH FOOD SAFETY MANAGEMENT SYSTEMS





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QUICK REMINDER: WHAT IS FOOD FRAUD AND IS IT A CHALLENGE FOR FOOD SAFETY AND MANAGEMENT SYSTEMS?

GFSI defined food fraud as below:

“Food fraud, including the subcategory of economically motivated adulteration, is of growing concern. It is deception of consumers using food products, ingredients and packaging for economic gain and includes substitution, unapproved enhancements, misbranding, counterfeiting, stolen goods or others.” (GFSI, 2014)

“Food fraud: A collective term encompassing the deliberate and intentional substitution, addition, tampering or misrepresentation of food, food ingredients or food packaging, labelling, product information or false or misleading statements made about a product for economic gain that could impact consumer health.” (GFSI Benchmarking Requirements, 2017)

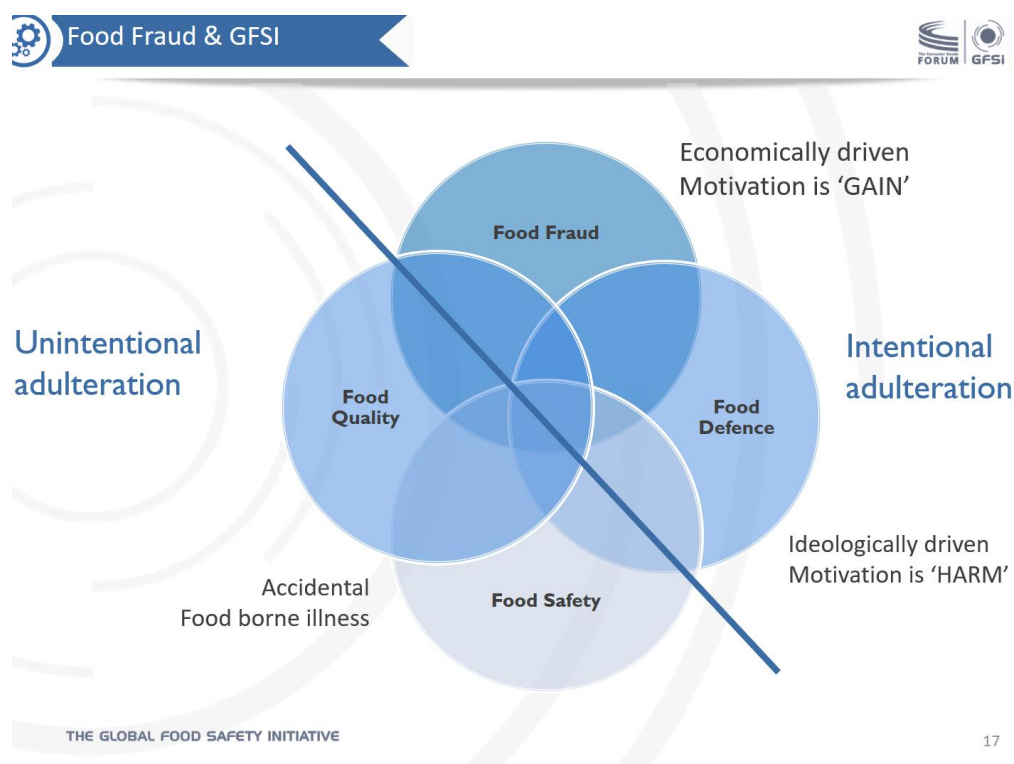


Figure 1: Food Risk Types
(GFSI Position Paper on Food Fraud, 2014)

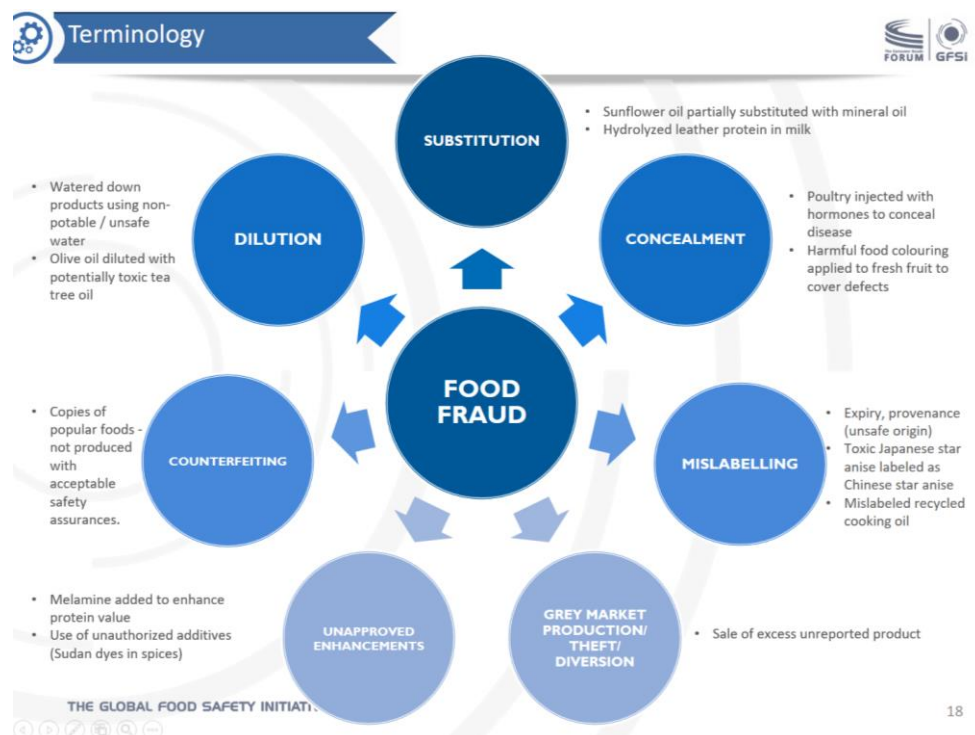


Figure 2: GFSI Presentation of Food Fraud Terminology (GFSI, 2014b)

Both definitions cover all types of fraud and all products and highlight that the motivation behind food fraud is intentional and economically driven, i.e. potentially linked to criminal activities and at least aiming to avoid detection.

This implies that any plans and activities to mitigate, prevent or even understand the risks associated with food fraud should consider an entire company's activities, including some that may not be within the traditional food safety or even HACCP scope, applying methods closer to criminal investigation. While a Food Fraud Manager is "accountable" for the full compliance they may not be "responsible" for each of the individual tasks. For example, managing and monitoring stolen goods may already be conducted by a supply chain logistics or corporate security staff.

THE GFSI REQUIREMENTS ON FOOD FRAUD

The GFSI Position Paper outlines a starting point consistent with other quality management practices:

“The GFSI Board has decided to follow the recommendations of the Food Fraud Think Tank and proposes to incorporate the two food fraud mitigation steps in the form of two new key elements in the GFSI Guidance Document to:

1. Require a company to perform a food fraud vulnerability assessment”
2. Have a control plan in place.”

This was translated into 3 key elements added to part III of the GFSI Benchmarking Requirements version 7.2 stated below.

<i>Food fraud vulnerability assessment</i>	The standard shall require that the <u>organization</u> has a <u>documented</u> food fraud <u>vulnerability assessment</u> procedure in place to identify potential vulnerability and prioritise food fraud mitigation measures.
<i>Food fraud mitigation plan</i>	The standard shall require that the <u>organization</u> has a <u>documented</u> plan in <u>place</u> that specifies the measures the organization has implemented to mitigate the public health risks from the identified food fraud vulnerabilities.
<i>Food fraud mitigation plan (Scope)</i>	The standard shall require that the organization's Food fraud mitigation plan shall be supported by the organization's Food Safety Management System.

Table 1: Food Fraud Requirements in the GFSI Benchmarking Document Version 7.0 (Emphasis added)

The requirements refer to the “The Organization”: While the traditional HACCP-type food safety approach is applied at manufacturing facilities, these operate within the overall organization. The food fraud vulnerabilities are company-wide and thus the food fraud scope is company-wide.

The different steps required should be “Documented”: Like other quality management and HACCP-type programs, the activities must be documented to both support continuous improvement and confirm compliance.

There is a requirement for a separate “vulnerability assessment” and a “mitigation plan” for food fraud. Under the overall food safety management system, this requires separate assessment for food safety, food fraud and for food defence.

THE IMPLEMENTATION

A **food fraud vulnerability** is defined in the GFSI Benchmarking Requirements as “the susceptibility or exposure to a food fraud risk, which is regarded as a gap or deficiency that could place consumer health at risk if not addressed”. It is therefore relevant to base the approach to build a vulnerability assessment plan and a mitigation plan on risk management methods such as described in ISO31000. Regardless of the tool or guidelines one may choose to build their plans, it is most important to:

- Be exhaustive in the first steps of the vulnerability assessment analysis and ensure a wide range of hazards are considered. As demonstrated earlier, food fraud can cover across all activities of a business and so the scope of the hazard identification step should cover them all;
- Understand the difference between hazard (a potential source of harm¹), risk (the probability of loss or injury from a hazard¹) and vulnerability (susceptibility to a risk¹): many hazards will have a low or very low likelihood and therefore not represent a risk; likewise, the susceptibility of a company or system to a risk is not only linked to the severity of this risk but more to the company’s awareness of their weakness and how they manage it.

Many regulatory and industry standards compliance systems require the assessment of a hazard “regardless of the outcome.” Identifying those hazards to then conclude that many of them have a “low” or “very low” likelihood can be a sufficient assessment as long as the assessment is carefully conducted and clearly documented.

While an “all hazards” assessment approach is important, all vulnerabilities are not risks, all risks are NOT hazards, and all hazards are NOT hazards that require a preventive control. The final mitigation plan must focus on those vulnerabilities that require a preventive control as identified through a carefully and documented analysis of the risks, likelihood and fraud opportunities.

Beyond the likelihood and consequence of risks, usually justified by scientific and historical data, a vulnerability assessment should also identify food fraud opportunities and weak signals, stemming for instance from economical context (e.g. a rise in commodity prices), individual motivation and capability, complexity of supply chain etc.

¹ ISO definition from the Online Browsing Platform

AUDITING A VULNERABILITY ASSESSMENT PLAN AND A FOOD FRAUD MITIGATION PLAN

“During a food safety certification audit, conducted against GFSI recognised schemes, the auditor will review the documentation related to the vulnerability assessment process and confirm that a comprehensive control plan, as outlined in the [position paper] Appendix, has been developed and implemented by the company.”²

A recent concern has been that a food safety HACCP inspection should not be diluted by addressing other issues, including food fraud. An audit against a GFSI-recognised certification programme is not a HACCP inspection but rather an evaluation of systems and practices contributing to food safety; it is usually organised around 3 key themes: HACCP, food safety management systems and good industry practices. The debate whether food fraud should be considered in a food safety management system was addressed favourably, considering the potential additional burden for food safety auditors but eventually acknowledging that food fraud can significantly jeopardise food safety.

With this in mind, there is awareness that addressing food fraud is new and different for those being audited as well as the auditors:

“The auditor is not expected to detect fraud or affirm that an anti-fraud program is capable of “preventing fraud”. This approach is very much in line with the verification of a HACCP plan during the food safety audit.”²

GFSI is aware that the harmonization and best practices are just now being developed and refined. A new system that is less than a year old in implementation cannot be expected to be as robust, thorough, or detailed as a system such as HACCP that has been implemented for more than 25 years. The most important step for the food industry is to start addressing food fraud, and for auditors to start asking the basic questions on how vulnerabilities were assessed and identified, and a strong mitigation plan thought through.

The focus of the auditor should be in assessing the approach taken by the company (is it company-wide? Is it built by a multi-disciplinary team? Is it clearly documented and reviewed regularly? What's the source of information used to support the assessment?).

² GFSI position paper on food fraud, 2014



REFERENCES

- GFSI Position Paper (2014)
- GFSI Benchmarking Document, V7.0 (2017)
- GFSI Benchmarking Documents, V7.2 (2018)
- GFSI, Global Food Safety Initiative (2014b). Food Fraud – Threats & Impact – an Industry Perspective, Presented by Neil Marshall for GFSI, EU Food Integrity Project -Food Authenticity Technology Conference, UK Department for Environment, Food and Rural Development (DEFRA), York, England

OTHER RESOURCES

- Food Fraud Overview and History [includes the history of the GFSI Food Fraud Think Tank, Position Paper, and inclusion in the GFSI Benchmarking Document], Presented by John Spink, Food Fraud Session, GMA Annual Conference, Tokyo, 2018, URL (5-minutes): https://www.youtube.com/edit?o=U&video_id=mg67m5c3ITE
- Food Fraud Update and Terminology Survey, Presented by John Spink, GMA Science Forum 2018, URL (21-minutes): <https://www.youtube.com/watch?v=IZNwilEz6fM&feature=youtu.be>

APPENDIX: DETAIL OF TYPE OF FRAUD, AND EXAMPLES

Table 2: Table: Food Fraud Types, Definitions, and Examples (adapted from (Spink and Moyer 2011, Spink 2013, SSAFE Organization 2015, PWC PriceWaterhouseCooper 2016, GFSI 2017, Spink, Ortega et al. 2017))

GFSI (1) Type of Food Fraud	Definition from SSAFE (2)	Examples from GFSI FFTT (3)	General Type of Food Fraud
Dilution	The process of mixing a liquid ingredient with high value with a liquid of lower value.	- Watered down products using non-potable / unsafe water - Olive oil diluted with potentially toxic tea tree oil	Adulterant-substance (Adulterant)
Substitution	The process of replacing an ingredient or part of the product of high value with another ingredient or part of the product of lower value.	- Sunflower oil partially substituted with mineral oil - Hydrolyzed leather protein in milk	Adulterant-substance or Tampering
Concealment	The process of hiding the low quality of a food ingredients or product.	- Poultry injected with hormones to conceal disease - Harmful food colouring applied to fresh fruit to cover defects	Adulterant-substance or Tampering
Unapproved enhancements	The process of adding unknown and undeclared materials to food products in order to enhance their quality attributes.	- Melamine added to enhance protein value - Use of unauthorized additives (Sudan dyes in spices)	Adulterant-substance or Tampering
Mislabelling/ Misbranding	The process of placing false claims on packaging for economic gain.	- Expiry, provenance (unsafe origin) - Toxic Japanese star anise labeled as Chinese star anise - Mislabeled recycled cooking oil	Tampering
Grey market production/ theft/diversion	Outside scope of SSAFE tool.	- Sale of excess unreported product, - Product allocated for the US market appearing in Korea	Over-run, Theft, or Diversion (4)
Counterfeiting (IPR)	The process of copying the brand name, packaging concept, recipe, processing method etc. of food products for economic gain.	- Copies of popular foods not produced with acceptable safety assurances - Counterfeit chocolate bars	Counterfeiting (IPR)

Notes:

(1) GFSI – Global Food Safety Initiative

(2) SSAFE – Safe Secure and Affordable Food For Everyone

(3) GFSI FFTT – Global Food Safety Initiative: Food Fraud Think Tank

(4): Gray Market -- a market employing irregular but not illegal methods; Theft -- something stolen; Diversion/ Parallel Trade -- the act or an instance of diverting straying from a course, activity, or use

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