

1. INTRODUCTION

1.1. Background

1.1.1. Food fraud

Food fraud is a growing concept, a collective term to explain the deliberate and intentional substitution, addition, misrepresentation of food, food ingredient, food packaging or food information made about a product for economic gain that could impact consumer health or confidence.

The notion of food fraud and food integrity received increasing attention as a field of investigation after highly media crises that sensibly impacted on vulnerable consumers for the former.

Unlike a growing food defence, which protects against tampering with intent to harm, the health risk of the consumers about food fraud is linked to negligence or lack of knowledge of the fraudsters and can be more dangerous than traditional food safety risks because the contaminants in these cases are unconventional¹.

These conditions already had a negative impact on consumers regarding the confidence in the consumption, creating a situation where the trust of the final consumers is low, while the level of safe food is very high. A European citizen is 260 times more likely to die as a result of the flu than due to unsafe food, yet one third of consumers do not trust the information provided by food labels¹. The reason of this distrust may also be due to the lack of normatives and regulations or effective detection methods, which lead to food fraud remaining largely undetected.

The first definition of food frauds was used by Spink and Moyer. According to them “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”².

Drawing on from this definition the key characteristics of food fraud are the non-compliance with food law or consumer deception, the intentionality of the act and the financial gain. Generally, the greatest opportunities for food fraud would be caused by the combination of different factors. The first one is a highly-motivated fraudster because of a big economic gain. Another decisive issue concerns vulnerable consumers willing to invest extra money for a given product, that in some cases are not able to distinguish from fraudulent products. Finally, an important factor can be surely the low probability of being caught due to inefficient control tools or even soft economic and legal consequences³.

As a response to the growing consumer concern, The Foodintegrity Handbook⁴, resulting from the Foodintegrity UE project, defined 7 different types of frauds identified by the GFSI Food Fraud Think Tank initiative, set up to explore food fraud issues.

There are different types of food fraud that could affect the integrity of the food product.

One of the most common fraud is **adulteration**. It occurs when there is an intentionally adding of foreign or inferior substance to the food

product, by replacing more valuable with less valuable or inert ingredients.

This practice could be considered like an economical gain and covers different types of adulteration that can alter the final product:

- Substitution, which is a process of replacing a nutrient, an ingredient or part of a food (with high value) with another nutrient, ingredient or part of food (one with lower value). This may affect processed hazelnuts, that can be mixed with cheaper nuts of different species.
- Dilution, which is a process of mixing a liquid ingredient (solute) with high value with a liquid of lower value.
- Unapproved enhancement, which is the process of adding unknown and undeclared compounds to food products in order to enhance their quality attributes.
- Concealment, which is the process of hiding the low quality of food ingredients or products.

Other important frauds for nuts market could be **counterfeiting or mislabelling**.

They occur when any or all aspects of the product or packaging are fully replicated, for instance the brand name, and when false claims are included on packaging for economic gain.

The last type of fraud is called “**Grey market**” and includes production, theft, and diversion involving unauthorised sales channels for products.

An example can be the sale of excess unreported product when there are production agreements or quotas for the product. This term also applies when there is a geographical restriction on the sale and distribution of the product.