

## What is Food Integrity?

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### Introduction

Food integrity is a concept that encompasses the disciplines of food safety, food fraud prevention and food defence [1]. For some commentators it also includes sustainable and ethical supply chain management [2]. Food integrity specialists work across the fields of food fraud, food defence, food safety, environmentally responsible procurement and ethical sourcing. Following the 2013 horsemeat scandal [3] and the subsequent publishing of the Elliott review into food supply networks [4], there was increasing recognition among food safety professionals of the need to consider and mitigate hazards introduced by the intentional contamination of food as well as accidental or naturally-occurring food safety hazards.

This increased awareness prompted the GFSI (Global Food Safety Initiative) to form a 'think tank' to consider how the international food industry should address deliberate contamination within food safety standards. The think tank [5] and other food fraud researchers [6], recognised that food fraud activities can pose threats to consumer safety. They also recognised that food fraud activities are fundamentally different to malicious food tampering. The differences are described in **Table 1**.

**Table 1:** Differences between food fraud and food defence

Food Fraud	Food Defence
Motivated by a desire for economic gain	Motivated by a desire to cause harm to consumers and/or food businesses
Does not always involve direct adulteration of food	Usually involves direct adulteration of food
Activities are intended to go undetected	Intended to be detected by victims
Affected foods sometimes (but not always) pose a direct health risk to consumers	Affected foods always pose a direct health risk to consumers

Following the recommendations of the think tank, in 2016 the GFSI included food fraud prevention requirements and food defence requirements in their benchmark documents that describe best practices in food safety management systems. At around the same time, the United States food regulatory system began to enforce new legislation aimed at protecting the US food supply from maliciously motivated food adulteration. This is

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colloquially known as the FDA Intentional Adulteration (IA) rule [7-8].

With the inclusion of food fraud prevention and food defence requirements in regulatory and voluntary food safety standards, food industry professionals increasingly acknowledged the need to better understand food supply chains. The food and associated industries are moving slowly towards greater transparency and increased knowledge-sharing between businesses [9]. At the same time as the fields of food fraud prevention and food defence were being incorporated into traditional concepts of food safety, public perceptions of food sourcing, manufacturing and retailing were changing [10]. Awareness of the damage to climate and ecosystems caused by greenhouse gas emissions has grown significantly in the past decade, among both consumers and members of the agri-food industry. Consumers in wealthy countries consistently report a desire for food that is grown, manufactured, transported and marketed in ways that are honest and ethical as well as safe [11]. Sustainably produced food is also increasingly important for consumers [11]. Food integrity is a term that has been adopted to reflect the desire of consumers and food industry participants for food that is safe, authentic, ethical and sustainable.

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