Module 1, Lesson 1:

Food fraud

Lesson guide
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What we'll learn

- Food fraud
- The consequences of food fraud
- Threats and vulnerability
- TACCP and VACCP

Food fraud

When we think of food fraud, we think of the horsemeat scandal. One of the brands implicated in the scandal, was Findus. The impact on Findus was devastating and they became the butt of a number of jokes.

So, you may think food fraud is a new thing, but it’s been around for hundreds of years. In the Victorian times, around 1870s, bakers in the UK adulterate the bread by adding bulking ingredients to the flour, to make it go further. They added things like chalk, plaster of paris and even alum.

Alum is an aluminum based compound, which caused bowel problems such as constipation and diarrhea and was fatal in small children.

Definition of food fraud

BRC Global Standard for Food Safety Issue 7, provides us with a definition of food fraud:

The BRC state that food fraud is the "fraudulent and intentional substitution, dilution or addition to a product or raw material, or misrepresentation of the product or material, for the purposes of financial gain, by increasing the apparent value of the product or reducing the cost of its production".

Let’s explain some of the terms used in this definition, to help break down what it means:

**Fraudulent:** An act that is dishonest, or the person who has carried it out, is trying to hide it.

**Intentional:** The act that is carried out intentionally, meaning that it’s done on purpose, not done by mistake.

**Substitution:** Where one ingredient or product is replaced with another.

**Dilution and addition:** Where another material is added to dilute the product, which therefore makes it go further.
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Misrepresentation: Where the fraudsters pretend that the ingredient or product is something that it’s not.

Financial gain: The act is carried out to make money.

Apparent value of the product: The product looks like it’s worth more than it actually is.

Reduced the cost of production: If the product is cheaper to make, and they can still sell it at the same price, meaning they make more money.

Cases of food fraud

There are many known cases of food fraud.

Olive oil

Olive oil is known to be diluted with other cheaper oils. Recent crop issues in Italy have compounded this issue, by reducing the amount of available olives. This then increases the cost of the olives, causing some producers to look for alternative ways to reduce their ingredient costs.

Madagascan vanilla

Ingredients which have provenance are often targeted by fraudsters, because they can charge more for them if they can say they are from a particular country or region, such as Madagascan vanilla.

Fish

When fish has been filleted, it’s difficult to tell what the original fish was.

Fish which is caught from sustainable sources, can also be sold at a premium, such as line or pole caught. Fraudsters have also been known to label net caught fish, which is not from a sustainable source, with line caught or pole caught labelling.

Processed mince

When meat is butchered it makes it much more difficult to tell what the original species was. Clearly, minced beef is a risk, as we found from the horsemeat scandal, but other types of meat are also at risk. For example, how do you know diced chicken is not in fact diced turkey?
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Herbs and spices

Adulterated herbs and spices have hit the news recently, where paprika has been found to be diluted using ground nut shells, which obviously poses an allergenic risk.

Back in 2005, chilli powder was contaminated with Sudan I, which is a red dye, that was used to make the chilli powder look more premium.

Herbs are also at risk, as they are diluted with other materials, such as leaves.

Free-range

Free-range products are worth a premium, over standard products. Liquid free-range egg has been found to be diluted with non-free range egg. This risk is also a valid one for other free range products such as meat, or dairy.

Organic

Organic products are also at risk due to the increased value of organic, over the same type of non-organic product.

Consequences of food fraud

Even though the horsemeat scandal didn’t cause a food safety issue, the impact was huge. It could have been different though if the meat had contained higher levels of bute, as the papers reported.

The more recent spices incidents however, where nut shells were found in spices, showed that food fraud could have really serious food safety consequences, due to the allergenic risk involved.

This was seen in 2008 in China, where baby milk formula was adulterated with a chemical called melamine. Melamine was added to the milk as it looks like protein when the milk was tested, therefore making the milk worth more. Melamine is extremely poisonous and made more than 300,000 children ill. 6 infants died and around 54,000 were hospitalised.
Consumer impact from these types of event are huge and can have a devastating impact on businesses, we saw this from examples from the horsemeat scandal.

Reports produced following the horsemeat scandal showed a 33% drop in consumer confidence (Consumer Council, July 2013) and that 73% of consumers were less confident in the safety of processed meat (Harris Interactive on the behalf of the FSA, February 2013)

**Threats and vulnerability**

A threat is a deliberate act to cause harm or loss.

A threat is carried out to cause harm or loss. Fraudsters carry out fraudulent acts, known as food fraud threats, to cause loss to us, in order to provide them with a financial gain. This can also cause harm, depending on how they have adulterated the product.

A vulnerability is how exposed the business is to the threat having an impact on the consumer.

**TACCP and VACCP**

TACCP and VACCP are relatively new terms and are causing some confusion in the industry.

TACCP and VACCP have been taken from the food safety abbreviation of HACCP, which stands for hazard analysis and critical control point.

- **TACCP stands for threat assessment and critical control point**
- **VACCP stands for vulnerability assessment and critical control point**

There are a couple of immediate problems with these abbreviations:

1. A threat is an intentional act to cause harm or loss. Vulnerability is how vulnerable you are to that threat having an impact on you. Therefore, threats and vulnerabilities are fundamentally linked, you cannot have a threat assessment, without considering vulnerability, or, the other way around
2. Both abbreviations refer to critical control points. However, neither a TACCP or a VACCP system has any critical control points, so the critical control point, or CCP element is irrelevant and just adds to the confusion

**What we’ve learnt**

Food fraud can compromise your product because:

- It doesn’t meet the claims on pack
- It is unsafe to eat
- It isn’t to the correct quality

Consumer reaction to food fraud incidents can damage brands and businesses.
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Food fraud is an intentional act that is carried out for economic gain

A threat is a deliberate act to cause harm or loss

A vulnerability is how exposed the business is to the threat having an impact on the consumer

Threats and vulnerability are fundamentally linked

The important question for vulnerability assessment is:

How **vulnerable** you are, to a **threat** having an impact on your business?