



## **Food Fraud**

### **cases - law - measures**

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Prof. Dr. Alfred Hagen Meyer

Food fraud is illegal deception for economic profit using food. An increasing number of incidents has raised awareness and urgency in addressing food fraud and the need of a proactive prevention approach.

### **This holistic and all-encompassing approach includes**

- an assessment of past incidents in the marketplace
- a review of fraud opportunities
- stretch internal control systems and
- connecting to enterprise-wide decision-making systems

## **What is food fraud?**

### **I am going to explain this with**

- some cases of fraudulent or deceptive practices
- some cases related to security relevant, some are product or process related
- I put in question the need for a new regulation on food fraud
- I go in for favourable factors of food fraud
- I show recent measures of the European Commission an Member States
- I have a short look on the new Reg. 2017/625 on official controls, dealing multiple with food fraud
- my speech will end with the main part about vulnerability analysis and a risk minimization strategy











Source: Food Fraud Think Tank Presentation, GFSI, 10/2012

I remember a case two years ago when a client of mine got blood orange juice, but diluted. The tank was under seal, as it should be after the filling in Sicily. A German laboratory declared after their survey in Sicily, that the tank contains blood orange juice, freshly pressed and not diluted. What happened on the way to Germany? The company boss, a Chinese lady, swore an oath, fought back one's tears, that no one in her sphere adulterated the juice.

Typical food fraud cases are dilution, substitution, concealment, unapproved enhancements, mislabeling, the so called "grey market" and counterfeiting.

- As the example shown before any kind of dilution are processes of mixing liquid ingredients with high value with a liquid of lower value.
- **Substitution:** process of replacing an ingredient or part of the product of high value with another ingredient or part of the product of lower value. Example: the substitution of meat, cow instead of moose (IKEA affected in Germany)

AT THE GROCERY STORE		IN A RESTAURANT	
<b>IF YOU MEAN TO BUY:</b> <b>GROUPE</b> \$7.00 	<b>IF YOU MEAN TO BUY:</b> <b>GROUPE</b> \$27.00 	<b>IF YOU MEAN TO BUY:</b> <b>WILD CHINOOK SALMON</b> \$7.50 	<b>IF YOU MEAN TO BUY:</b> <b>WILD CHINOOK SALMON</b> \$26.30 
<b>BUT YOU GET:</b> <b>TILAPIA</b> \$2.99 	<b>BUT YOU GET:</b> <b>TILAPIA</b> \$15.00 	<b>BUT YOU GET:</b> <b>ATLANTIC FARMED SALMON</b> \$3.99 	<b>BUT YOU GET:</b> <b>ATLANTIC FARMED SALMON</b> \$20.70 
<b>YOU LOSE: \$4.01</b>	<b>YOU LOSE: \$12.00</b>	<b>YOU LOSE: \$3.51</b>	<b>YOU LOSE: \$5.60</b>

You buy  
**Grouper**



you get  
**Tilapia**

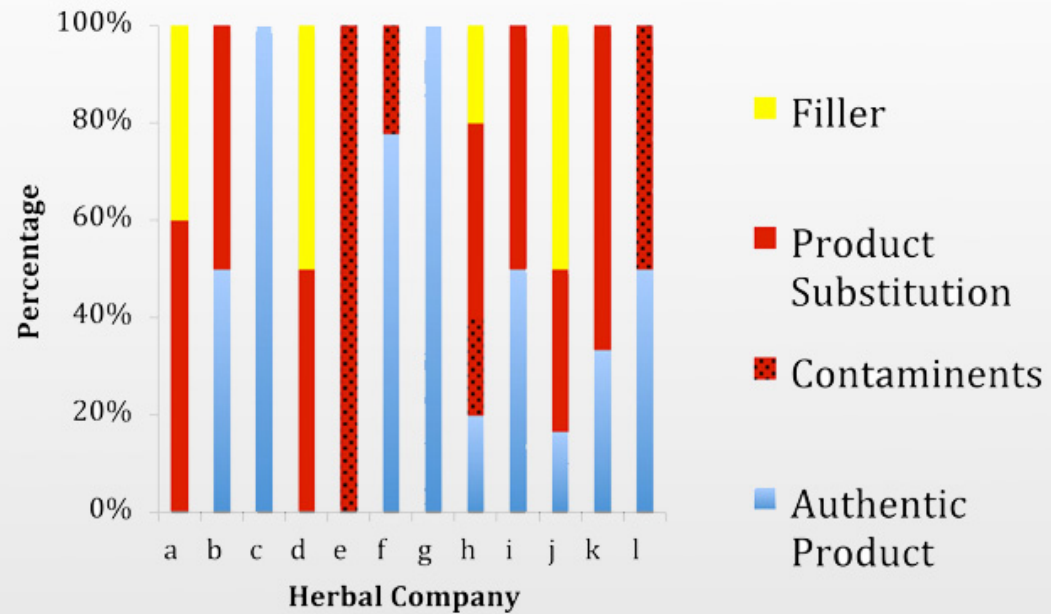
You buy  
**Wild Chinook Salmon**



You get  
**Atlantic Farmed Salmon**

Let us have a quick look on case with fish. An investigation of a Belgian NGO shows which fish you want to buy but in fact which kind of fish you get instead. You think you buy Grouper, but you get Tilapia or instead of Wild Chinook Salmon you get Atlantic Farmed Salmon.

- **Concealment:** process of hiding the low quality of a food ingredients or product. Example: food colouring applied to fresh food as meat or fruit to cover defects
- **Unapproved enhancements:** process of adding unknown and undeclared materials to food products in order to enhance their quality attributes. Well know case: Melamine added to enhance protein value of milk; use of unauthorized additives as Sudan dyes in spices or vegetables
- **Mislabeling:** process of placing false claims on packaging for economic gain concerning the provenance (olive oil).



**DNA barcoding detects contamination and substitution in North American herbal products**

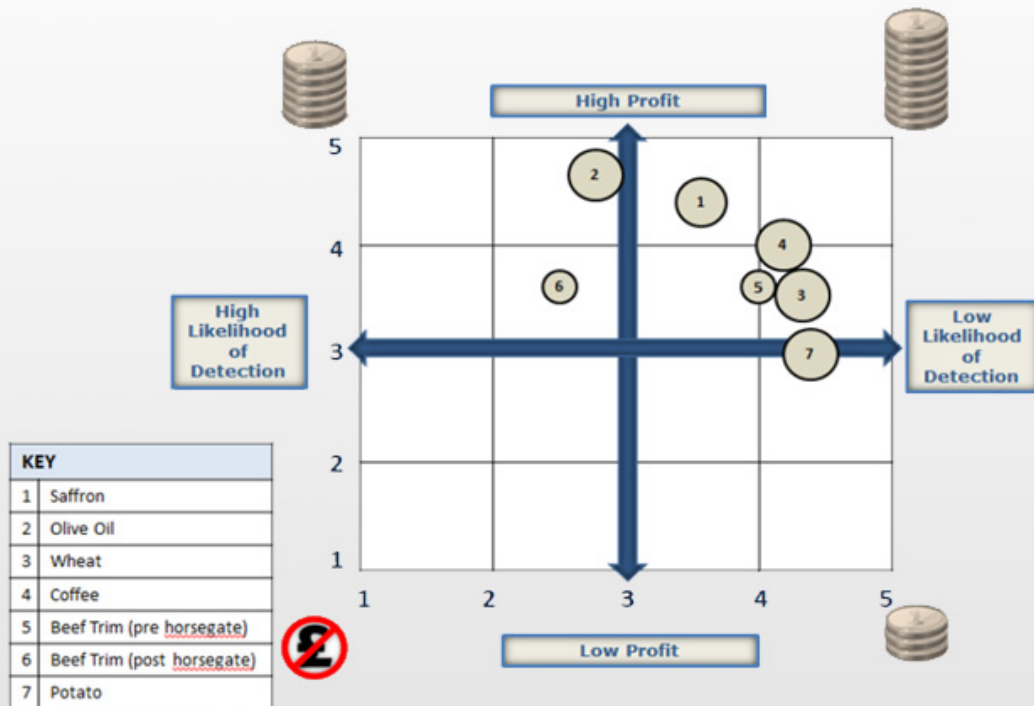
Newmaster et.al., BMC Medicine 2013 11:222

Herbal supplements are often not what they seem. A test by Newmaster, published in 2013, evidenced fillers, substitution and contamination in herbal products.

- **“Grey market”**: cases of theft or diversion
- **Counterfeiting**: process of copying the brand name, packaging concept, recipe, processing method etc. of food products for economic gain.

If we look on the cases mentioned above we can differentiate between such cases with security relevance (Melamin or any harmful ingredients), product (wrong animal species) or process related ones.

relevant to security			
product related	addition of Melamin	addition of Methanol	process related
	wrong animal species	addition of foreign matter	
not relevant to security			



Final Report. Risk Modelling of Food Fraud Motivation-“NSF Fraud Protection Model” Intelligent Risk Model Scoping Project. NFS 2014)

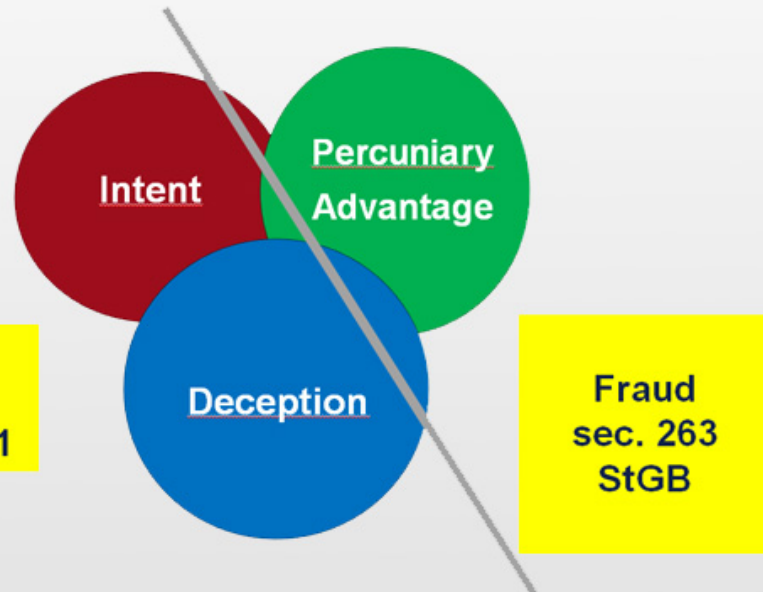
Taking into account food fraud cases worldwide on a systematic evaluation this shows that criminals will fake any type of food and drink with no thought to the human cost as long as they make a profit or there is a low likelihood of detection.

Is there a need for a new regulation on food fraud? no.

Let me explain this with regard to sec. 263 of the German Criminal Code (StGB); the sec. states:

„Whosoever acts intentionally with a view to seek an illegal pecuniary advantage for himself, or who damages the assets of another under false pretences, or by distorting or surpressing true facts, thus causing or maintaining an error, will be imprisoned for up to five years or fined“.

Three objects characterize fraud: pecuniary advantage, deception and intent.





If the delinquent does not act intentionally with the view to seek an illegal pecuniary advantage or acts carelessly only, the act can be assumed as a deception with regard to Art. 7 of the Reg. 1169/2011.

## What are the favourable factors of food fraud?

- **Nutrition trends:** sudden high demand for a certain product (e.g. chia seeds)
- Complex, long **supply chains**; including numerous food business operators and international trade
  - Overview of the entire food chain is not always available Traceability often insufficiently checked
- Increase of **highly processed foods**; complex and variable food composites
  - Consumers have increasingly little or no idea about how and where their foods are produced
- **New ingredients** are difficult to define and characterize and they can vary from season to season, or depending on their geographical origin
- Pressure on inspectors, **cost-cutting** when it comes to checking and controlling goods
  - Lack of effective checks and controls and the implementation of current legal regulations Predominantly **only national** checks, sanctions and enforcements
- Inadequate priorities to uncover food fraud
  - Little risk of being found out
  - Lack of deterrent **sanctions**
- High chance of financial **profit**

## **Worldwide authorities are adopting approaches to combat food fraud.**

One example is the effectual operation OPSON. Opson (Greek: ὄψων) is an important category in Ancient Greek foodways. The operation OPSON is the joint Europol-INTERPOL operation targeting counterfeit and substandard food and drink, as well as the organized crime networks behind this illicit trade. In 2015 the operation discovered nearly 85 tonnes of olives, colored with a copper-sulphate solution or confiscated approx.10.000 litres of counterfeit alcohol in Great Britain. In South Korea a man was arrested for the online sale of fake dietary supplements (weight loss products) estimated to have generated US\$ 170.000 in a 10 month period only.

In 2017, 61 countries (21 EU Member States) took part in operation OPSON VI. Each participating country implemented a national operational phase between 1 December 2016 to 31 March 2017, involving police, customs, national food regulatory bodies and partners from the private sector. More than 50 000 checks were carried out at shops, markets, airports, seaports and industrial estates.

OPSON VI show new trends such as counterfeit mineral water. Italian Carabinieri NAS in cooperation with the Ministry of Health seized more than 266 000 litres of mineral water in the area of Lazio. Bottles imitated a registered trademark of mineral water. Labels and shapes of the plastic containers were similar to the genuine products. Investigations revealed that the water originated from the same source. However, no market authorization had been granted and bottling was done without regards of health and safety regulations. One person was arrested.

Further cooperation is the Food Fraud Network. A network of 28 national contact points of the member states, non-EU-members, Island, Norway and Switzerland as well as the European Commission. The Administration and Cooperation-System (AAC) was founded on 2015 following the horsemeat scandal. Aim is the fast and effective forwarding of information about food fraud in Europe.

Initiatives could be named in Great Britain. The Food Standards Agency sets up a food fraud databank. Furthermore, they initiate a network of various interest groups, started monitoring programs, training programs and research projects focusing on the topic of food fraud.

The British Food and Drink Federation began a “5-Stage-Plan” for the supply chain on strategies and action plans.

# New Reg. 2017/625 on official controls

## fraudulent or deceptive practices [food fraud]

- subject matter and scope (Art. 1 para. 4a)
- **official controls** regularly, with appropriate frequencies determined on a **risk basis** (Art. 9 para. 2)
- **frequency of Commission controls** in third countries (Art. 121 lit. h)
- **reference centres** for the authenticity and integrity of the agri-food chain (Art. 98)
- **transmission of information** on possible non-compliance (Art. 102 para. 4b)
- **investigations** (recital 88)
- **intensify as appropriate official controls** (Art. 65 para. 4)
- **penalties** (Art. 139)
  - ✓ “at least either the economic advantage for the operator or, as appropriate, a percentage of the operator's turnover”

The new European Reg. 2017/625 on official controls supposed a wide range of measures against food fraud, above all more official controls regularly, with appropriate frequencies determined on a risk basis, a regulation on frequency of Commission controls in third countries, reference centres for the authenticity and integrity of the agri-food chain, a transmission of information on possible non-compliance to rules, further investigations and intensify as appropriate official controls and the order for the Member States to implement penalties, “at least either the economic advantage for the operator or, as appropriate, a percentage of the operator's turnover”.

## What is the obligation of the food industry?

After the implementation of Quality Management Systems, regulations on food safety and food defense, the new challenge is the incorporation of food fraud measures.

Effectual measures against food fraud need a vulnerability analysis and a risk minimization strategy.

		<b>Motivation Consequences</b>
<b>Food Quality</b>	<b>Food Fraud</b>	<b>Economic Profit</b>
<b>Food Safety</b>	<b>Food Defence</b>	<b>Negative impact on Public Health, Economic Damage or a Terrorist Act</b>
<b>unintentional</b>	<b>intentional</b>	
<b>Activity</b>		

# The slogan is „Think like a criminal“

A vulnerability analysis includes

- Evaluation of **previous cases** (preparation of a risk matrix)
- Using **external information** (from other companies, trade associations, etc.)
- **Identifying potential risks**, starting from the suppliers and trade partners
  - German Risk Ass. Body BfR „Product-Protection-Checklist“
- Assessment of the **possibility of risks of individual raw materials** and or products
  - high risk with packaging that has no manipulation protection, e.g. egg boxes
  - minor risk in tins and shrink-wrapped products
- Consideration of **favourable factors**, e.g. deception incentives

The aim of this analysis is the identification of critical product categories that are the target of fraud either because of their value or their inherent sensitivity.

## A mayor challenge is to determine the controllable resp. uncontrollable risk factors based on the food chain.

### Controllable factors are

- careful choice of suppliers
- supplier relationships
- certificates of marketability
- audit strategy
- frequency of Checks

### But there are also uncontrollable risk factors as

- crop failure due to drought, cold spells or flooding
- disruption of the safety and supply networks of a region due to terrorist acts, political instability, uprisings and war

## What the individual food entrepreneur need is an action plan, better a risk minimization strategy.

### Tools therefore could be

- increase of traceability „upstream and downstream“
- certification according to recognized standards
- introduction of an internal Whistleblower-System
- expansion of controls
- focus on process controls
- increase in audits
- expansion of information networks

I am not a friend of Whistleblower-Systems. Some whistleblowers are neutral observers, others are utopians (type: Chelsea Manning, Edward Snowden), the greedy ones (Tax-CD-Sellers) or – often - „avengers of the disinherited“ (as former/fired/unhappy workers, workers who were not taken seriously). They are all not so altruistic as it looks like on the first view. And think about it: “The biggest scamp all around, is the squealer, so profound” as August Heinrich Hoffmann von Fallersleben said.

**I hope I could motivate you for your own food fraud system.**



## Prof. Dr. Alfred Hagen Meyer

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### **„Those with a risk-based quality system will master a crisis“**

Prof. Dr. Meyer's practice focuses on all aspects of food law and the law of food contact materials and commodities, including product development, health claims, risk assessment and crisis management as well as lobbying at the national and European levels. As an honorary professor, Prof. Dr. Meyer has been teaching food law for the Institute for Food Chemistry at the Technical University of Munich since the winter semester of 1995/1996. His academic achievements include over 300 publications, including a legal commentary on food advertising in Fezer (Ed.), an exposition of EU Unfair Competition Law (C.H. Beck Verlag). He is the editor of the German food review 'Deutsche Lebensmittel Rundschau' (DLR) as well as chairman of the Legal Committee of the German Dietary Association (Diätverband) and managing director of the sponsor organisation for the Research Centre for German and European Food Law in Bayreuth.

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