



FOOD FRAUD – Threats & Impacts



THE INDUSTRY'S RESPONSE

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GFSI Board Member and Former Chairman

Outline

- Introduction to GFSI
- Food Fraud
 - Types
 - Drivers
 - Impact
- Food Industry's Response
- Analytical Testing Strategy



GFSI: Global Food Safety Initiative

- Launched in 2000 – GFSI is an industry-driven initiative gathering world's leading food safety experts
- GFSI provides leadership & guidance on food safety management systems
- GFSI is managed by the CGF
 - CGF is a global parity-based industry network which brings together CEOs from 400 companies across 70 countries
 - CGF member companies have combined sales of € 2.5 Tr.
 - CGF is governed by a Board of Directors including 50 manufacturers and retailers



GFSI Mission

The mission

Provide continuous improvement in food safety management systems to ensure confidence in the delivery of safe food to consumers worldwide.



GFSI Objectives

GFSI Objectives:

- Reduce food safety risks
- Manage cost in the supply chain
- Develop competencies and capacity building
- Facilitate knowledge exchange and networking



Key Activities:

- Specifying in its guidance document, the requirements for food safety schemes and how these requirements should be implemented controlled and monitored
- Driving global change through multi-stakeholder projects on strategic food safety issues



A Global Multi-Stakeholder Platform



Platform for Collaboration



Building Confidence in Certification

Benchmarking & recognition of food safety management schemes against the **GFSI Guidance Document**



- Sets the requirements for food safety management schemes and key elements for the production of food and feed
- Defines the requirements for the effective management and control of conforming schemes
- Puts in place transparent procedures for the GFSI benchmarking process

'Once Certified, Accepted Everywhere'

These are the recognized schemes:



Other Activities within GFSI

Global Markets Programmes

- Tool for development of supplier food safety management systems toward certification
- Targets less developed companies in primary production and manufacturing
- Facilitating their market access



Auditor Competence

- Consensus on the skills, knowledge and attributes that a competent food safety auditor should possess



Benefits of the GFSI Approach

Supply chain

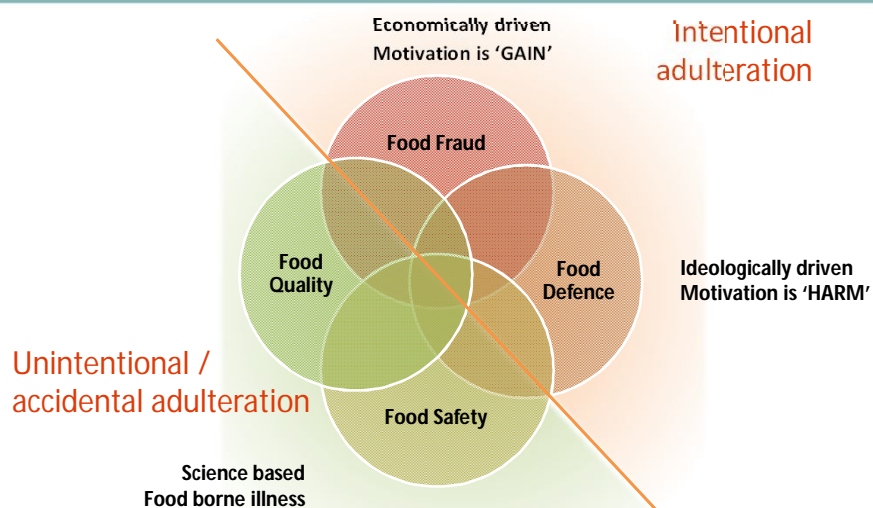
- Improved product integrity
- Better access to market
- Reduces duplication

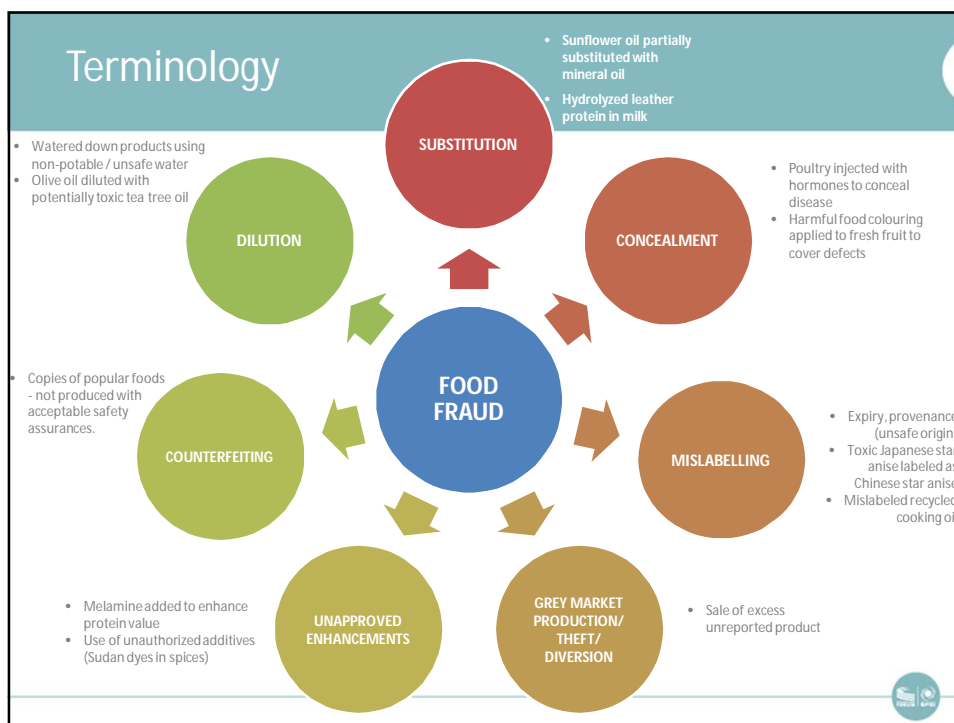
Public Health

- Improved public health
- Complement legislation
- Reduced foodborne diseases
- Country reputation & local economy



Food Fraud in the Context of Food Safety





Food Fraud: A Global Concern

Arrests in France in new horsemeat scandal
26 February 2013 Last updated at 11:29 GMT
 Donkey, water buffalo and goat meat have been sold as burgers and sausages in South Africa, a study says.

South Africa study finds donkey meat sold as beef
26 February 2013 Last updated at 11:29 GMT
 A study published by the local Stellenbosch University found that 98 of 130 samples contained donkey meat in the product beef.

Walmart Recalls Tainted Donkey Meat in China
Added by Anthony Clark on January 11, 2014. Based on: Anthony Clark, Bloomberg. Page: 1/1
 Walmart (Wal-Mart Stores, Inc) has recalled tainted donkey meat in China as DNA reports are showing traces of fox meat. Walmart announced that it is recalling donkey meat, a favorite at some Walmart meat counters in China, due to tests revealing trace amounts of unlabeled fox meat.

False food labels on 82 'impure oils' in China
By Jenny EAGLE @, 21 Oct 2013

Testing reveals third of food products mislabelled
By Joe Whitehead @, 05 Feb 2014

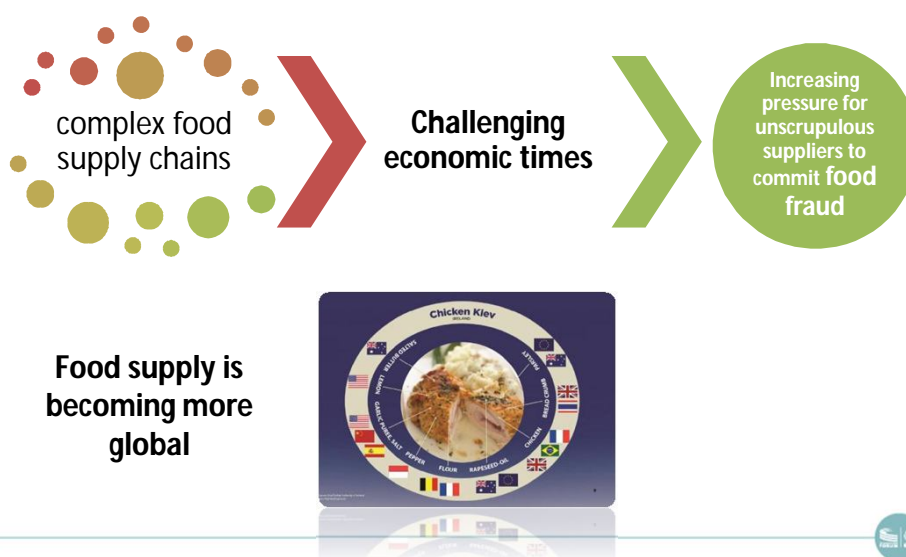
India's milk prices hiked again, though much of it is adulterated
By RJ Whitehead @, 05 Feb 2014

Top Foods & Ingredients for Fraud



* Source: in 'Development and application of a database of food ingredient fraud and economically motivated adulteration from 1980 to 2010'. J.C. Moore et al. (2012). J. of Food Science Vol. 77(4), 118-126.

Why is Food Fraud increasing?



Example of Complex Supply Chain

The horsemeat scandal



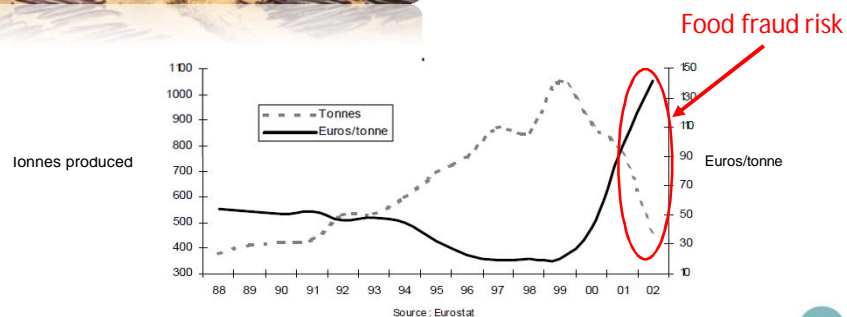
Source: www.economie.gouv.fr

Example of Rising Price

Vanilla: a classic case of supply and demand ...



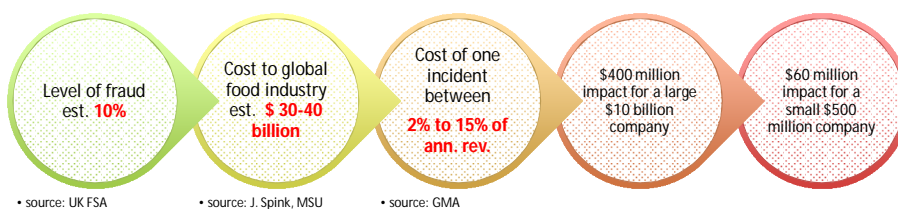
Current price: 30 € / kg
But in 2003: prices reached 500 € / kg



Some Numbers on Food Fraud



Over **2,100**
records



• source: UK FSA

• source: J. Spink, MSU

• source: GMA



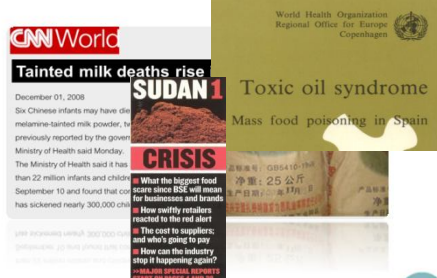
The Impact of Food Fraud

Impact on business

- Consumer trust
- Lost sales
- Crisis management

Impact on consumer

- Most cases of food fraud not harmful
- But there are some notable exceptions



Global Response



Food Related Crime

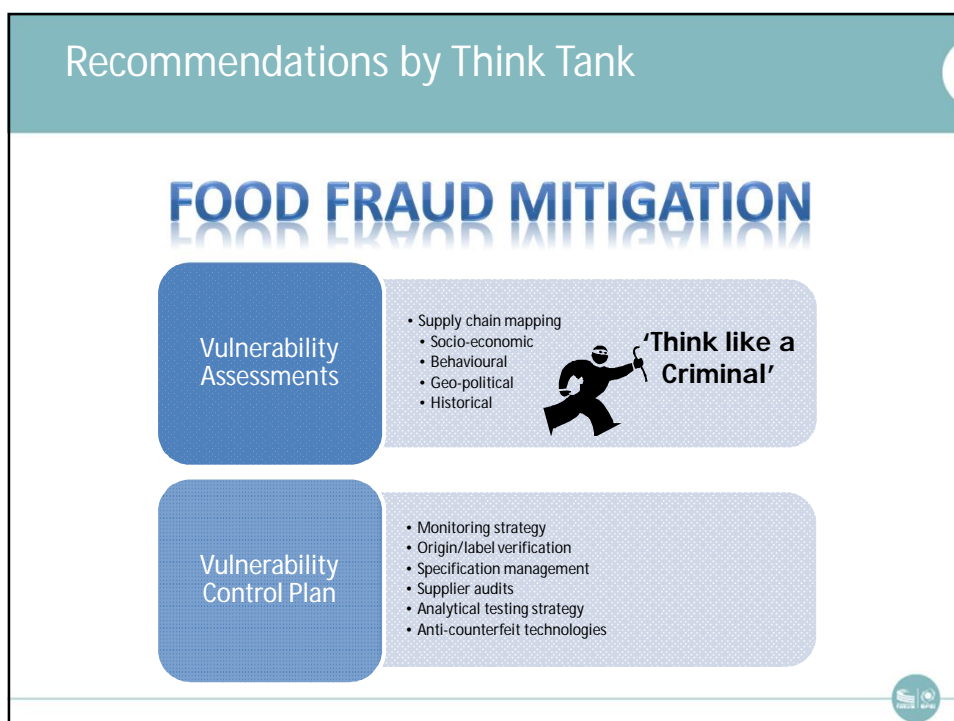
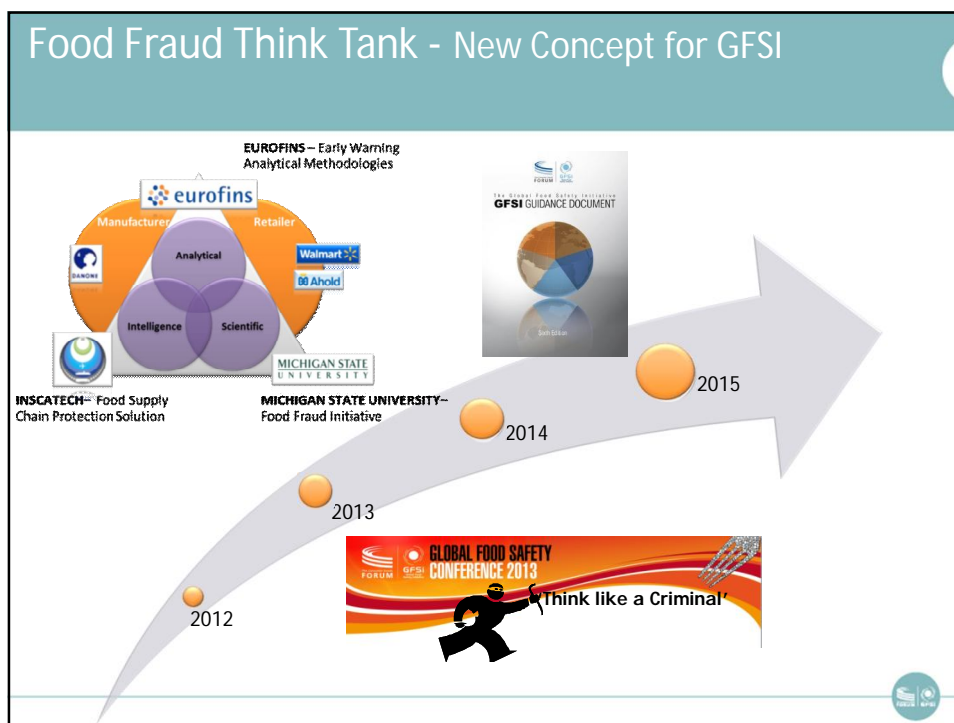
THOUSANDS OF TONNES OF FAKE FOOD AND DRINK SEIZED IN INTERPOL-EUROPOL OPERATION

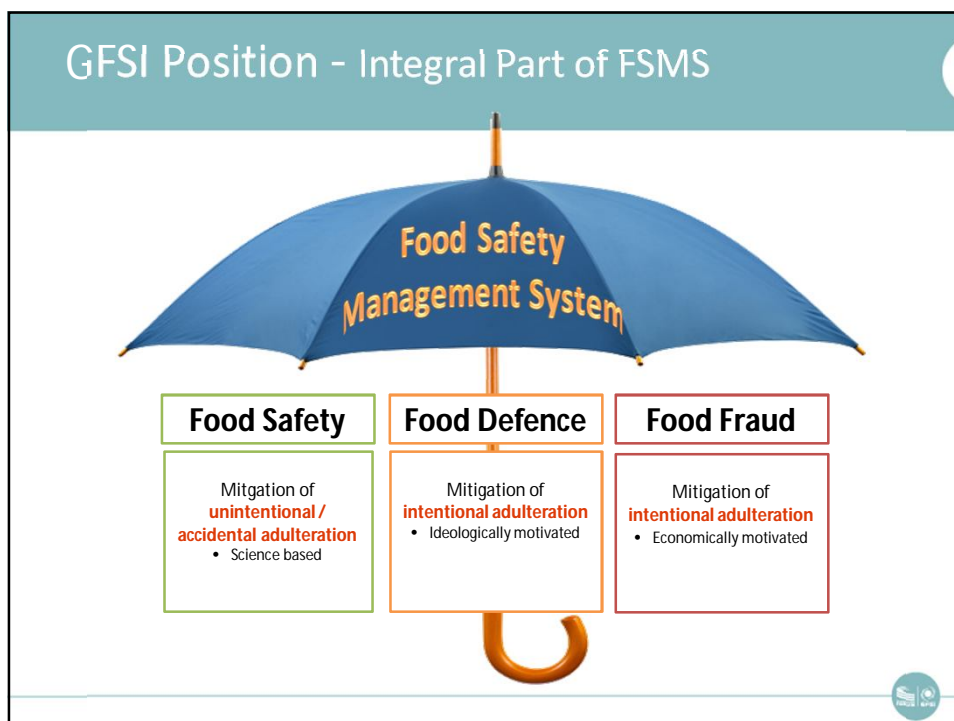
The Hague, the Netherlands
13 February 2014

More than 1200 tonnes of fake or substandard food and nearly 430 000 litres of counterfeit drinks have been seized in an Interpol-Europol coordinated operation across 33 countries in the Americas, Asia and Europe.

Targeting the organised crime networks behind the illicit trade in counterfeit and unregulated food and drink, Operation Opsion III led to the recovery of more than 131 000 litres of oil and vinegar, more than 80 000 biscuits and chocolate bars, 20 tonnes of spices and condiments, 186 tonnes of cereals, 45 tonnes of dairy products and 42 litres of honey. In total some 96 people were arrested or detained with investigations continuing in many countries.

The operation, conducted throughout December 2013 and January 2014, and supported for the first time by the European Commission's Directorate General for Health and Consumers, involved police, customs, national food regulatory bodies and partners from the private sector, with checks carried out at shops, markets, airports, seaports and private homes.





Implementation of Food Fraud Mitigation

Incorporation in
GFSI Guidance
Document Vs. 7
(2016)



Incorporation in
Food Safety
Management
Schemes



Implementation
and execution in
companies' FS
Management
System



Certification via
third party audits



Current Activities

WHAT

- Requirements



HOW



- Guidelines for
implementation



Initiative on the 'HOW'

SSAFE 

Practical guidance



Help companies undertake a vulnerability assessment



Help companies prepare a plan to control the identified vulnerabilities

VU  VRIJE
UNIVERSITEIT
AMSTERDAM

WAGENINGEN UR
For quality of life



SSAFE is a non-profit organization aiming to strengthen recognized food protection systems through public private partnerships.

For more information visit www.ssafefood.org/



The Analytical Testing Strategy

FOOD FRAUD MITIGATION

Vulnerability
Assessments

- Supply chain mapping
- Socio-economic
- Behavioural
- Geo-political
- Historical



'Think like a Criminal'

Vulnerability
Control Plan

- Monitoring strategy
- Origin/label verification
- Specification management
- Supplier audits
- Analytical testing strategy
- Anti-counterfeit technologies

Credits to Michele Lees, Eurofins



The Analytical Testing Strategy



Credits to Michele Lees, Eurofins



Detecting Fraud...



Targeted Analysis

⇒ target list of components

**we know what to look for and
only find what we are looking for**



Non-Targeted analysis

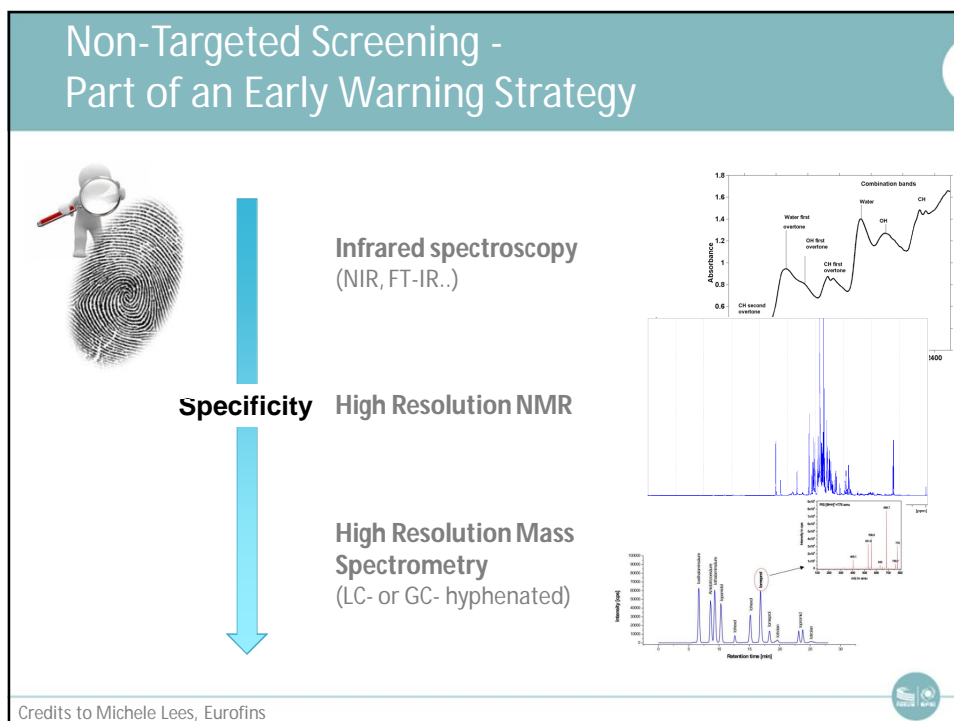
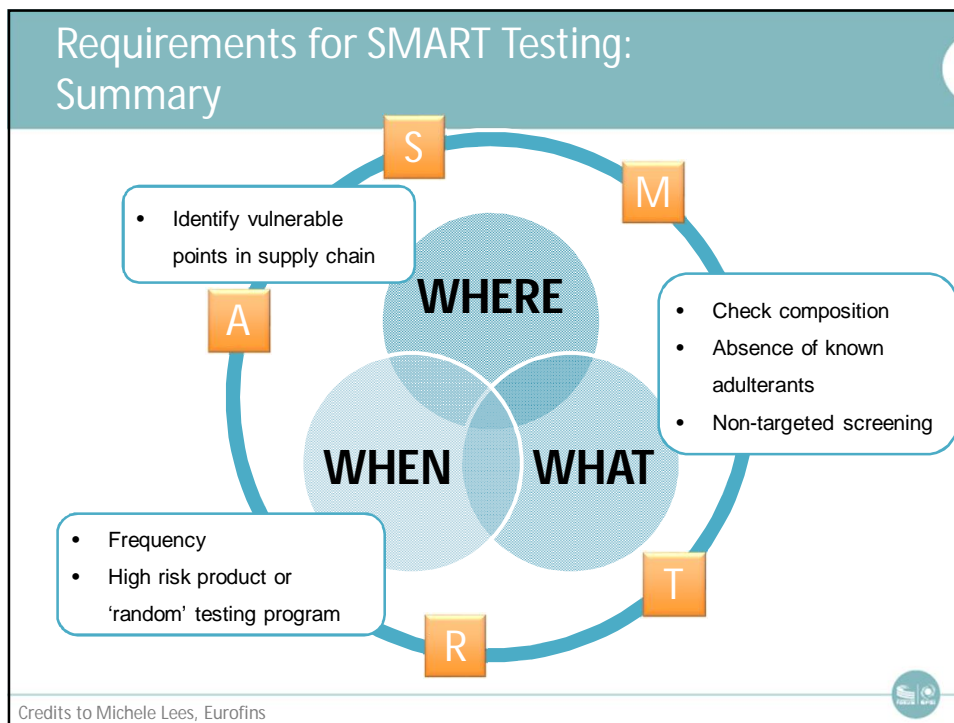
⇒ product/ingredient profile

**we also find what we are NOT
looking for**



Credits to Michele Lees, Eurofins





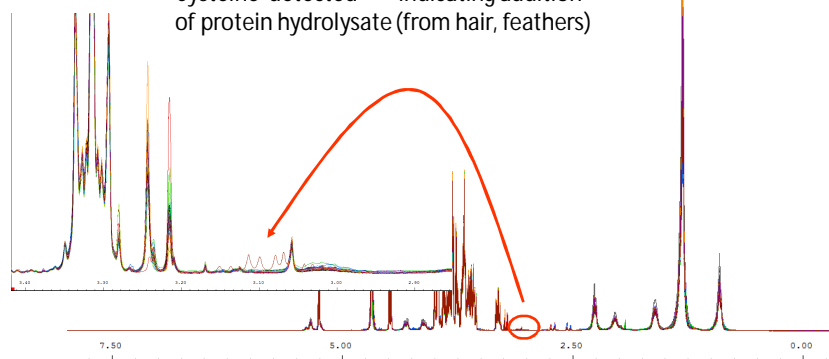
Non-Targeted Screening - Part of an Early Warning Strategy

Example:
High Resolution NMR as a monitoring tool for milk



AgriFood GPS
Food Safety & Quality Assurance

Cysteine detected \Rightarrow indicating addition
of protein hydrolysate (from hair, feathers)



Credits to Michele Lees, Eurofins



**Look Beyond the Obvious
&
Find the Needle in the Haystack!**



THANK YOU

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