

# Vulnerability Assessment and Approaches to Food Fraud Prevention

*Conference on Food Fraud*

Rome -- October 23-24, 2014 – 14:40 to 14:55

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[WWW.FoodFraud.MSU.edu](http://WWW.FoodFraud.MSU.edu) -- Twitter @FoodFraud and #FoodFraud



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# Curriculum

## **Massive Open Online Course (MOOC – free, open, online)**

- Food Fraud Overview, Two Session Course, November 10 & 17, 2014
  - Free, open, online, open to everyone
  - English and **Mandarin Language**
  - [www.FoodFraud.msu.edu](http://www.FoodFraud.msu.edu)

## **Graduate Courses (Online, Three Credits)**

- Anti-Counterfeit & Product Protection (Food Fraud)
- Quantifying Food Risk (including Food Fraud)
- Global Food Safety (including Food Fraud)
- Food Protection and Defense (Packaging Module)
- Packaging for Food Safety

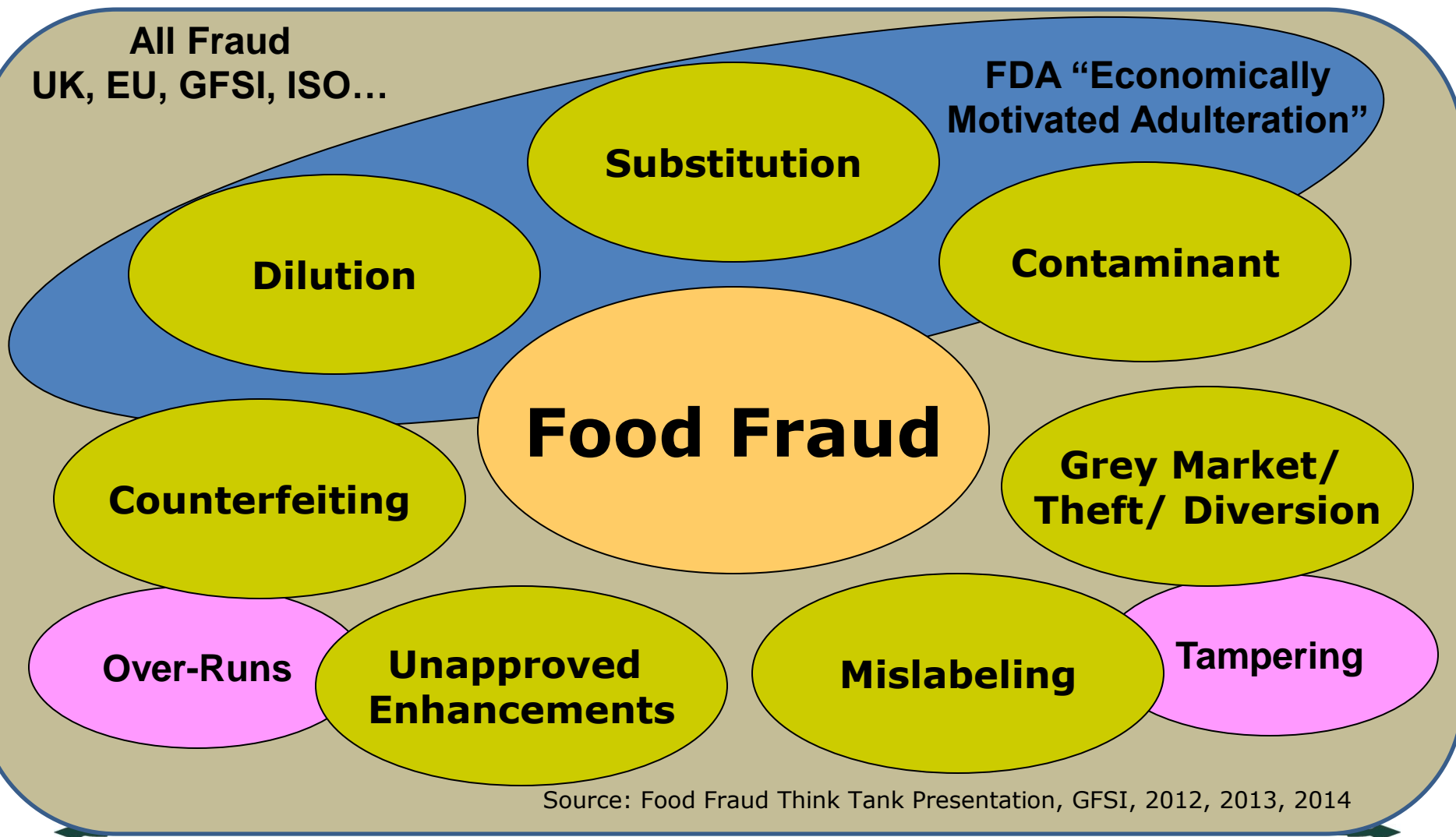
## **Certificate (Online, Four Courses Each)**

- Certificate in Food Fraud Prevention (Food Safety)

## **Master of Science in Food Safety (Online)**

- [www.online.FoodSafety.msu.edu](http://www.online.FoodSafety.msu.edu)

# What is Food Fraud?



Source: Food Fraud Think Tank Presentation, GFSI, 2012, 2013, 2014

# Defining Food Fraud

- Action: Deception Using Food for Economic Gain
  - Including the sub-category of FDA “Economically Motivated Adulteration”
- Motivation: Economic Gain
  - Food Defense motivation is traditionally harm or terror
- Effect:
  - Economic ***Threat***
  - Public Health ***Vulnerability or Threat***
- Examples
  - Horsemeat in ground beef
  - Peanut Corporation selling known contaminated product
  - Diluted or extra virgin olive oil
  - Melamine in pet food and infant formula
  - Over-icing with unsanitary water
  - Unauthorized unsanitary repackaging (up-labeling or origin-laundering)
  - Cargo Theft reintroduced into commerce
- Reference: Spink & Moyer (2011). Defining the Public Health Threat of Food Fraud, Journal of Food Science

# The Food Risk Matrix

*Prevent by Understanding the Motivation*

**Food Security**

Food Quality	Food Fraud <sup>(1)</sup>	Motivation  Gain: Economic
Food Safety	Food Defense	Harm: Public Health, Economic, or Terror
Unintentional	Intentional	
Action		

Source: Adapted from: Spink (2006), The Counterfeit Food and Beverage Threat, Association of Food and Drug Officials (AFDO), Annual Meeting 2006; Spink, J. & Moyer, DC (2011) Defining the Public Health Threat of Food Fraud, Journal of Food Science, November 2011

## GFSI Position - Integral Part of FSMS



Food Safety	Food Defence	Food Fraud
Prevention of <b>unintentional / accidental adulteration</b> <ul style="list-style-type: none"> <li>• Science based</li> </ul>	Mitigation of <b>intentional adulteration</b> <ul style="list-style-type: none"> <li>• Ideologically motivated</li> </ul>	Mitigation of <b>intentional adulteration</b> <ul style="list-style-type: none"> <li>• Economically motivated</li> </ul>

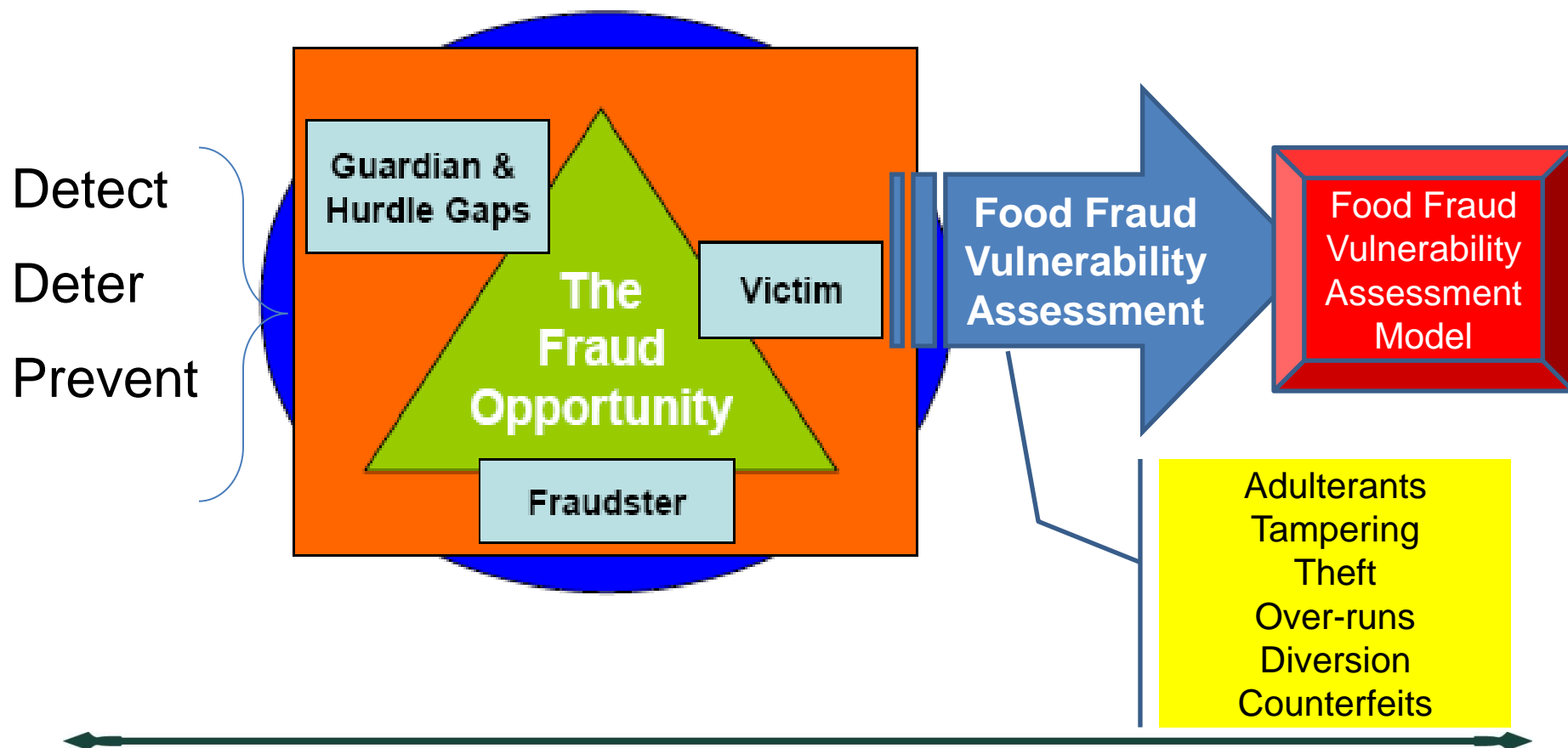
*A continuum... but separate  
processes...*



FOOD FRAUD THINK TANK  
Progress Update

# The Chemistry of the Crime

## The Vulnerability Assessment Foundation





# Call to Action

- Academia
  - *Shift from intervention and response to prevention*
  - Define the value of technology and countermeasures in terms of the impact on prevention (re: lawsuits, enforcement, prosecution)
  - Lead with the behavioral sciences and criminology
- Industry
  - *Food Fraud Prevention focus – holistic, consumer confidence*
  - Engage Governments in request for comments
  - Risk assessment/ vulnerability frame
- Governments
  - *Focus broadly on product fraud not just adulterants*
  - Define Food Fraud in laws not just in regulations or guidance documents
  - Create and engage public-private partnership forum
  - Risk assessment/ risk summing for all population-wide risks
- State and Local Agencies
  - Collaborate to define the risk- and science-based approach
  - Evaluate safety of food inspectors

# Resources

- Food Fraud Reference Sheet
  - <http://foodfraud.msu.edu/food-fraud-reference-sheet/>
- Crime Triangle Introduction and Application to Food
  - <http://onlinelibrary.wiley.com/doi/10.1111/j.1750-3841.2011.02417.x/abstract>
- Types of Product Fraud/ Food Fraud
  - <http://www.crimesciencejournal.com/content/2/1/8>
- Types of Counterfeiters/ Fraudsters
  - <http://www.crimesciencejournal.com/content/2/1/8>
- Product Counterfeit Incident Clustering
  - <http://www.crimesciencejournal.com/content/3/1/3>
- Case Study of Food Fraud Incidents – Challenges of Enforcement
  - <http://nopr.niscair.res.in/handle/123456789/11577>

# MSU Engagement 2014-2015

	Outcome	Benefit	Commitment
Graduate Course	Share your knowledge and set direction of research	Develop the internal talent to support initiatives in the AC space	14 Weeks, online, May to August, ~\$2200
Executive Education	Share your knowledge and set direction of research	Develop the internal talent to support initiatives in the AC space, meet other thought leaders (“invitation only” sessions for brand owners)	2 Days on-campus (\$1950) Feb 24-25 Feb 26-27 QFR Sept 16-17 Sept 18-19 QFR
Multi-Client Studies	Research the why’s of AC/D, understand underlying drivers	Uncovering the drivers may lead to new strategies to combat Counterfeiting	Teleconference Meetings with option for on-campus e.g. Veterinary and Animal Product Fraud
MOOC	Engage global network of Food Fraud thinkers..	Two, 2-hour on-line webinar format with assessment. Students earn an MSU “credential”.	November 10 & 17, 2014

# Discussion

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Twitter: [@Food Fraud](https://twitter.com/FoodFraud) and [#FoodFraud](https://twitter.com/FoodFraud)

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