



Food Fraud Criminology

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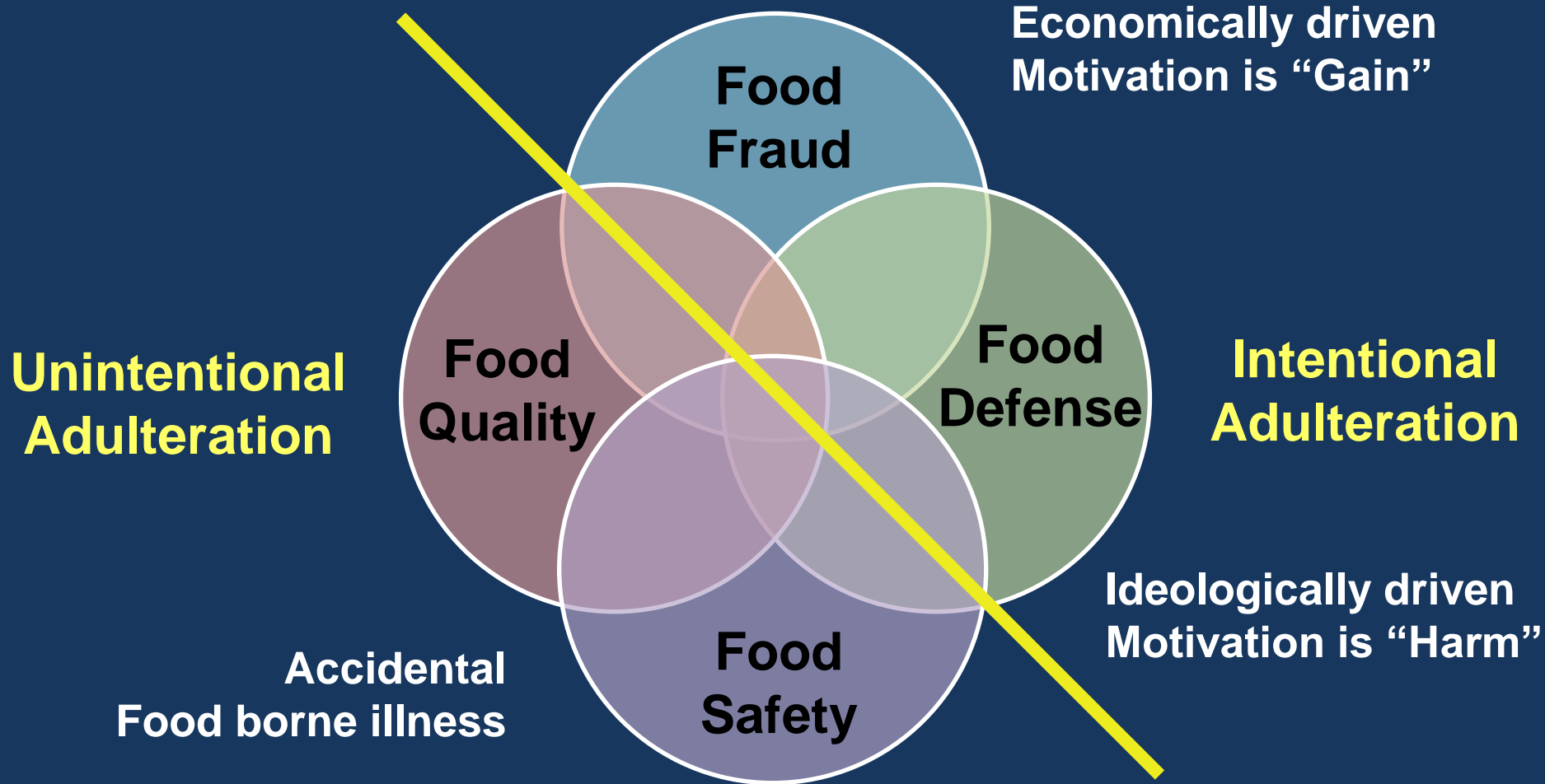
South Carolina Food Safety Task Force

June 1, 2021

Today's presentation focuses on four objectives

- Define food fraud and explain how it is different from food safety, food quality, and food defense
- Introduce some of the criminological theories used to understand crime and criminality
- Discuss how humans and criminal opportunities are central to all food fraud incidents
- Review the 2013 “Horse Gate” scandal

The food protection categories



Food fraud is...

- **Action:** Deception using food
 - Including the FDA defined sub-category of Economically Motivated Adulteration (EMA)
- **Motivation:** Economic gain
- **Effect:**
 - Economic Threat
 - Public Health Vulnerability or Threat

Food fraud is a collective term used to encompass the deliberate and intentional substitution, addition, tampering, or misrepresentation of food, food ingredients, or food packaging; or false or misleading statements made about a product, for economic gain.

Food fraud includes...

- Contamination
- Counterfeit
- Dilution
- Mislabeling
- Origin masking
- Substitution
- Tampering
- Theft and resale (diversion)
- Unapproved enhancements

The types of food fraud most commonly used by fraudsters:

- **Adulteration** (i.e., dilution, substitution, unapproved enhancements)
- **Mislabeling**

Example: fish and seafood



Catfish (\$10/lb)

Mislabeled as



Sol Fish (\$16/lb)



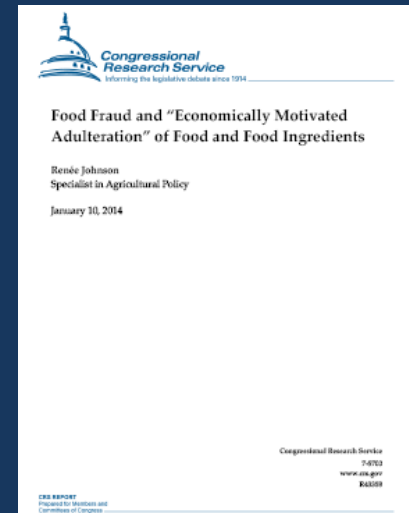
Mislabeling

- 30% of seafood samples are mislabeled globally (MSC, 2018)
- 80% of seafood consumed in the US is imported (GAO, 2009)
- 1/3rd of the seafood on the US market is fraudulently labeled
- <1% of seafood is tested by the FDA
- 2% of seafood is inspected by the FDA



Leading food fraud categories

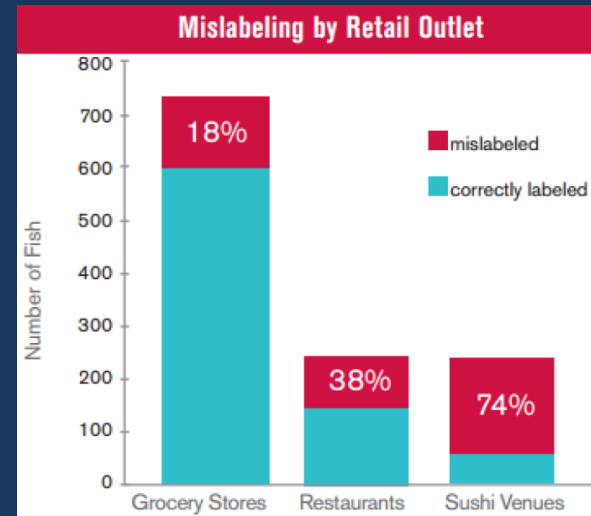
1. Olive Oil
2. Milk / dairy products
3. Fish and Seafood
4. Honey, Maple Syrup, and other sweeteners
5. Fruit juice
6. Coffee and Tea
7. Saffron
8. Clouding agents
9. Organic foods and products
10. Spices



Mislabeling of seafood

Commonly Mislabeled Fish	
What You Bought	What You Got
Chilean seabass	Antarctic toothfish
Alaskan/Pacific cod	Pangasius (Asian "catfish"), Atlantic cod, threadfin slickhead, tilapia
Atlantic cod	Pacific cod, white hake
grouper	Pangasius (Asian "catfish"), king mackerel, whitefin weakfish
Alaskan/Pacific halibut	Atlantic halibut, blueline tilefish
salmon (wild, king and sockeye)	farmed Atlantic salmon
sea bass	Antarctic toothfish, Patagonian toothfish
snapper	giltheaded seabream, madai, tilapia, Pacific ocean perch, widow rockfish, yellowtail rockfish
red snapper	Caribbean red snapper, crimson snapper, spotted rose snapper, Pacific ocean perch, yellowtail rockfish, giltheaded seabream, madai, tilapia, white bass

- 33% mislabeling
- Red snapper 87% mislabeling
- White tuna 59% mislabeling
- Cod 32% mislabeling
- Salmon 7% mislabeling

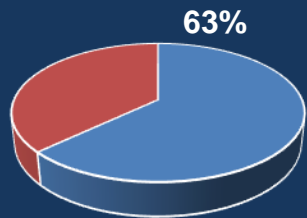


Mislabeling of salmon

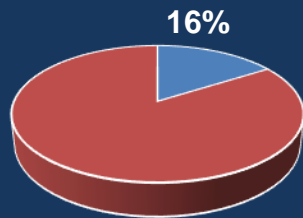
- 43% mislabeling
- Most common to sell farmed Atlantic salmon as wild Chinook, King and Sockeye



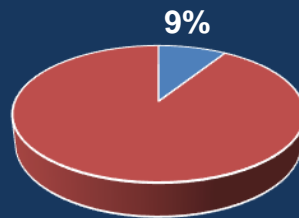
■ Correctly Labeled ■ Mislabeled



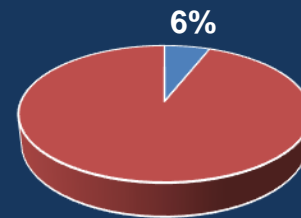
Out-of-season Salmon from Restaurants



In-season Salmon from Restaurants



Out-of-season Salmon from Grocery Stores



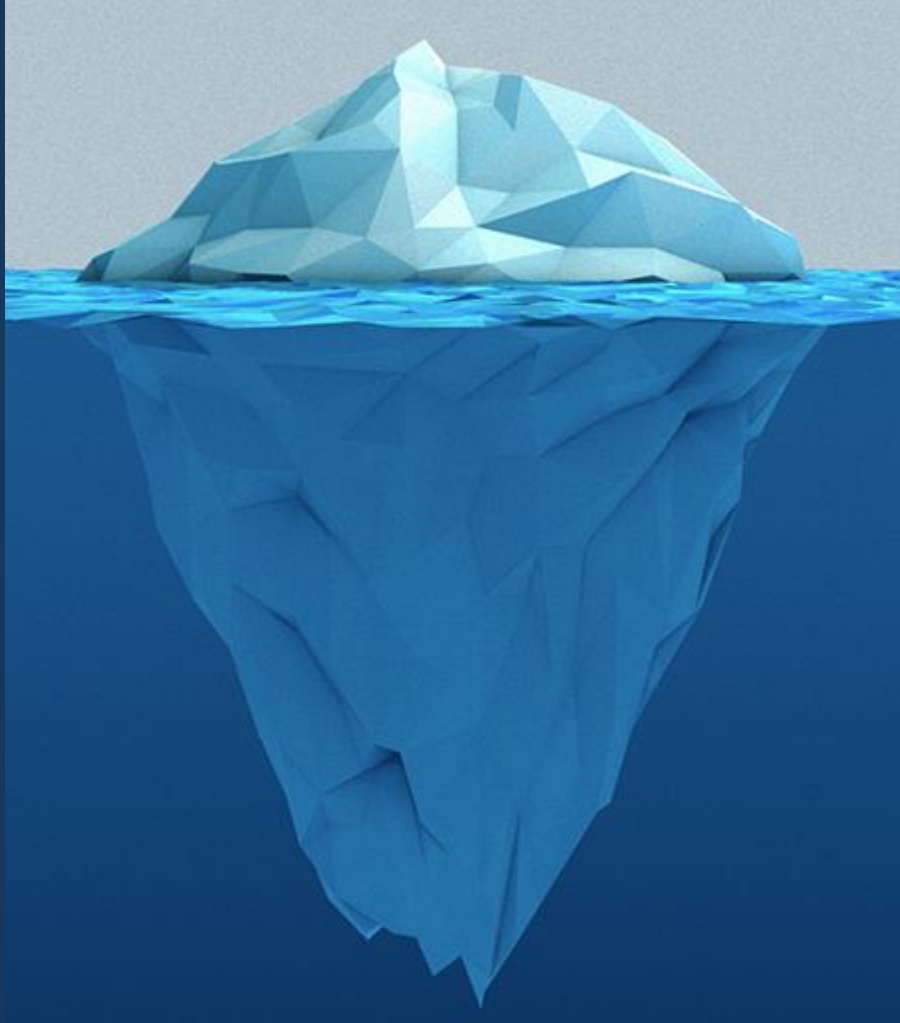
In-season Salmon from Grocery Stores

The problem is large and growing?

- Estimate: the global food industry loses US \$30 to \$40 billion annually to food fraud (MSU FFI, 2014)
- A single food fraud incident can cost 2-15% of a company's annual revenue (GMA, 2010)



Food fraud prevalence is unknown

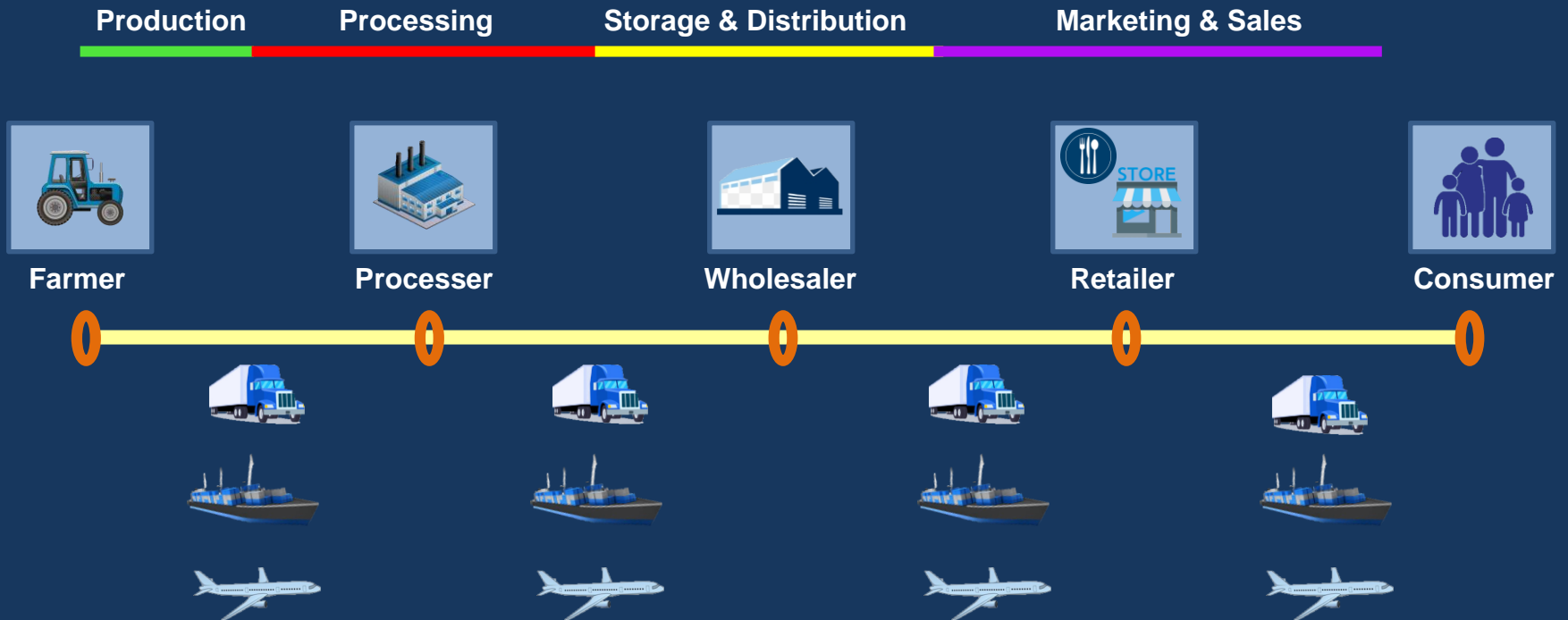


**Identified
Food Fraud cases**



**Unidentified
Food Fraud cases**

The food supply chain has many crime opportunities



Crime versus Criminality

- Criminality

- The general tendency to commit crime (a behavior)



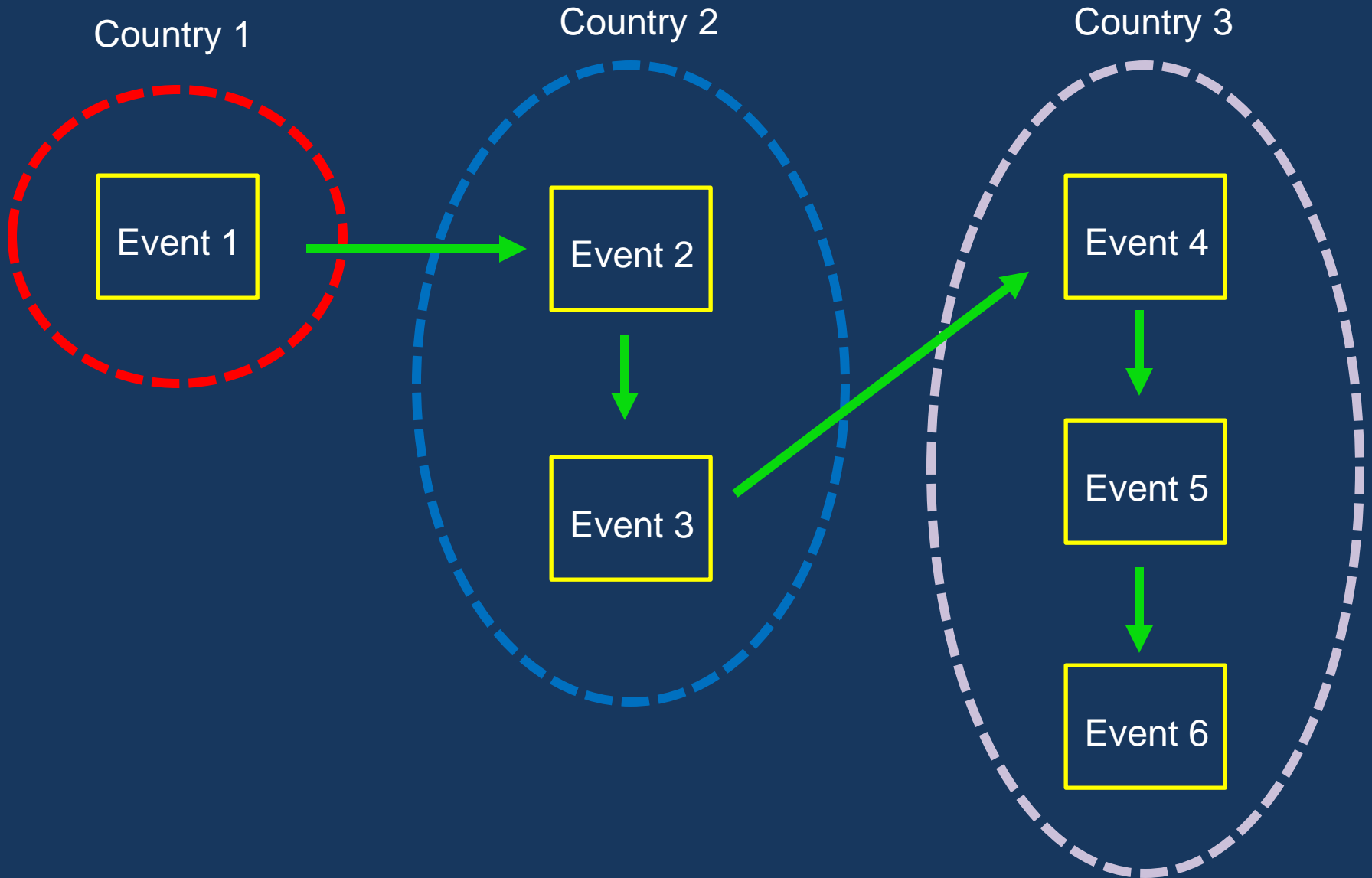
- Crime

- Refers to a specific event (an act)

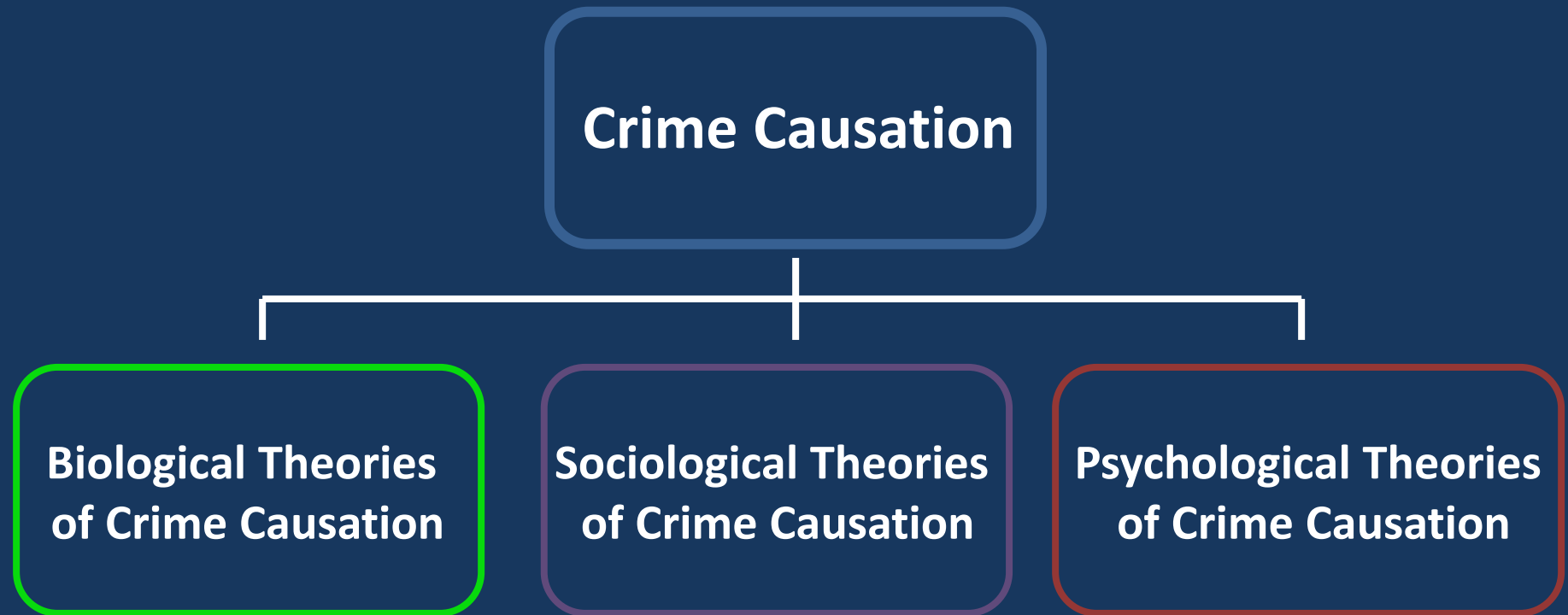


**Transnational consequences and
transnational harm results from a
sequence of local crimes**

All crime is local



Criminology attempts to explain crime causation



**While criminology focuses on criminals
in an attempt to explain
crime causation...**

**Crime science focuses on crime
in an attempt to prevent it.**

Environmental crime theories (Crime Science)

- Routine Activity Theory
- Rational Choice Theory
- Crime Pattern Theory
- Situational Crime Prevention
- Broken Windows Theory



Crime science focuses on opportunity

- **Routine Activity Theory**
 - Motivated offender
 - Suitable target
 - Capable guardianship
- **Crime Pattern Theory**
 - How offenders find crime opportunities
- **Rational Choice Theory**
 - Offender decision making process



The Chemistry for Crime



Evaluating the crime opportunity

- Established tenets of crime prevention theory guide our thinking
 - The crime triangle identifies the basic elements that comprise any problem
- We must analyze and understand these elements in order to solve problems



Established tenets of crime prevention theory guide our thinking

- The first component is *problem-solving*
 - Data should guide analysis of specific problems
 - Responses are evidence-based and tailored to the problem
- “SARA” is key to problem-solving
 - SARA is a systematic process for examining all relevant data related to a recurring problem



Established tenets of crime prevention theory guide our thinking (cont.)

- The second component is the *crime triangle*
 - The crime triangle identifies the basic elements that comprise any problem
- We must analyze and understand these elements in order to solve problems



SARA and the crime triangle are linked



We must obtain data and conduct analyses that relate to the crime triangle

So, what does crime science (prevention) tell us?

- Problems must be specifically and accurately defined
- The process must be *data-driven*
- The solution must be focused
- Assessment must be ongoing

***These principles can and should be
applied to Food Fraud***

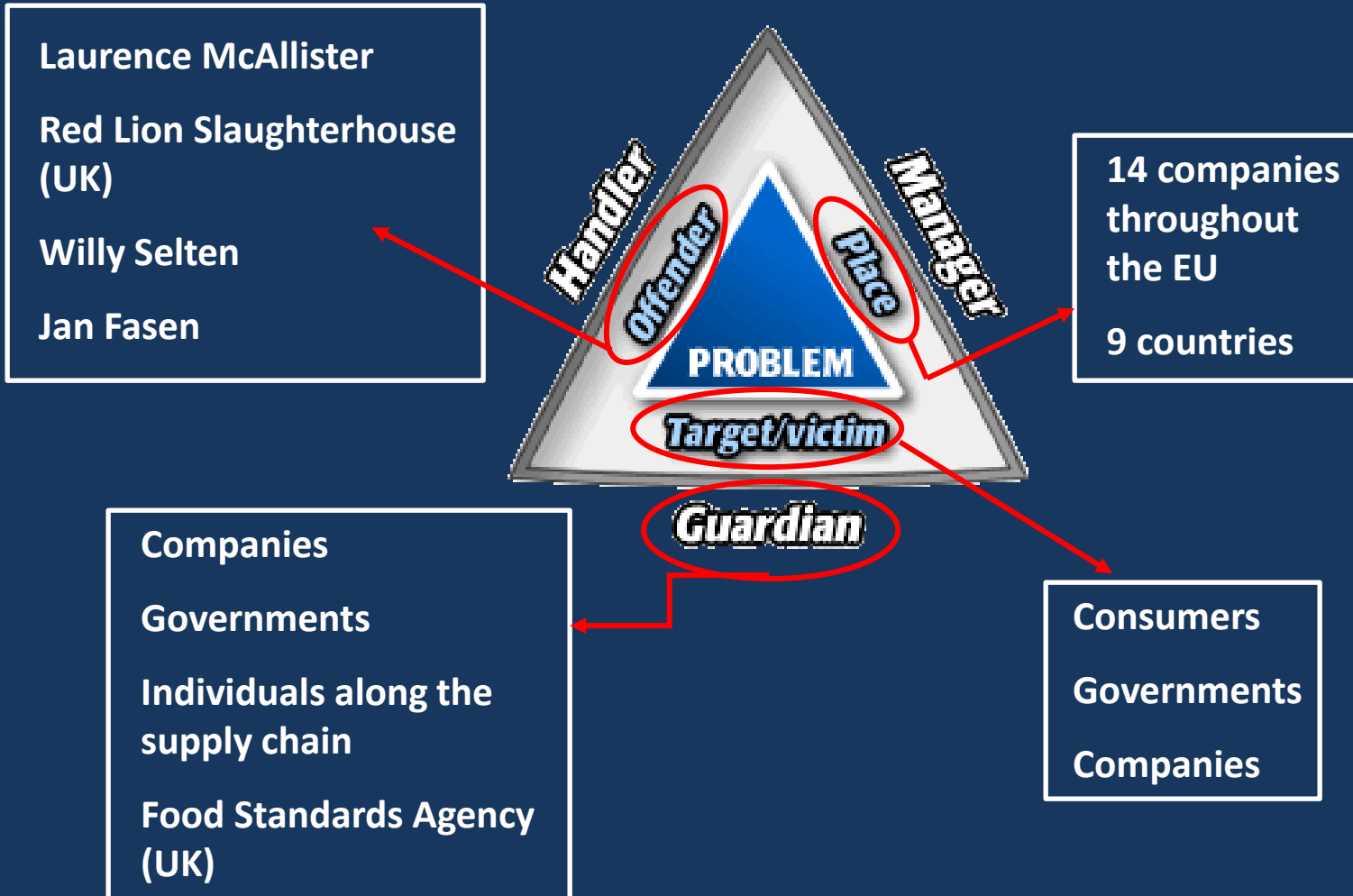
Example

The 2013 horsemeat in beef scandal

Horsemeat in beef (EU 2013)



(Photo: Dimitar Hristov)



The horsemeat in beef crisis resulted in several countermeasures

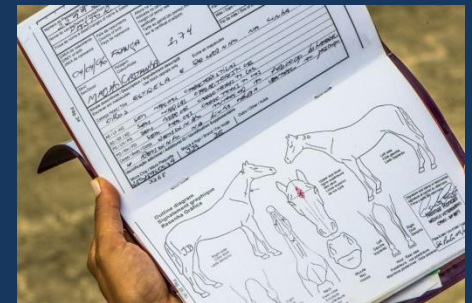
- An improved horse identification system in Europe (i.e., horse passports)
- Mandatory country of origin labeling for horse meat
- Mandatory CCTV cameras inside slaughterhouses
- Restriction of the Tripartite Agreement

New problems emerge

Incidents



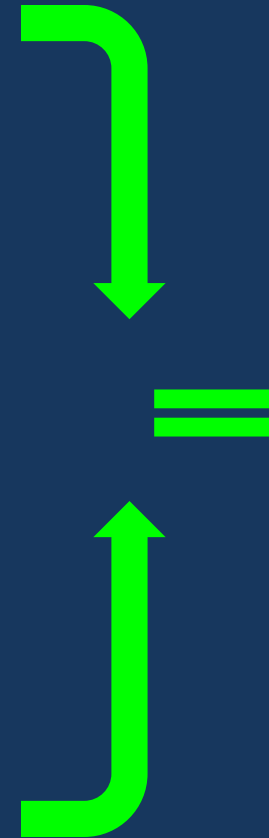
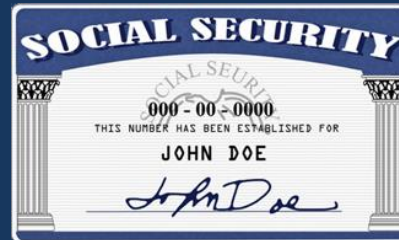
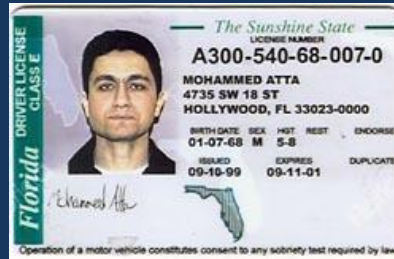
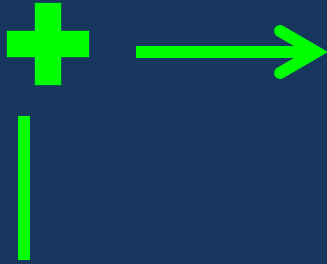
Counterfeit and forged horse passports were being targeted by the fraudsters



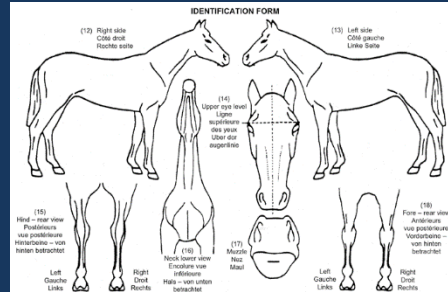
(Photo: Rio 2016/Alex Ferro)

**So...how does one obtain a fake
identity document or horse passport?**

Birth certificates can be used to obtain identity documents that give the holder access to various aspects of society

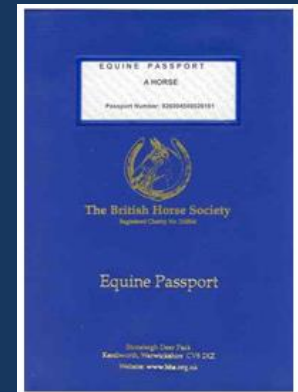
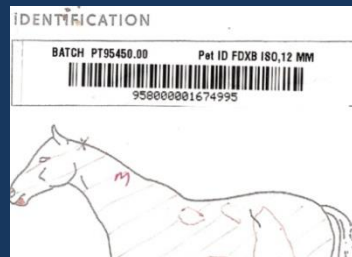


Obtaining a horse passport



ID

ID





Questions and Comments

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