

FOOD FRAUD NETWORK EU-COORDINATED CASE

**Illegal treatment of
Tuna**
with vegetable extracts





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Tuna's normal ageing process

Fresh tuna has a red pigmentation
(high quality indicator)

Over time, pigmentation turns brown
protein oxidized
(freshness alteration indicator)

Histamine levels also increase
(Alteration of the flesh structure)





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Fraudulent scheme

Use of Nitrites to improve tuna's colour

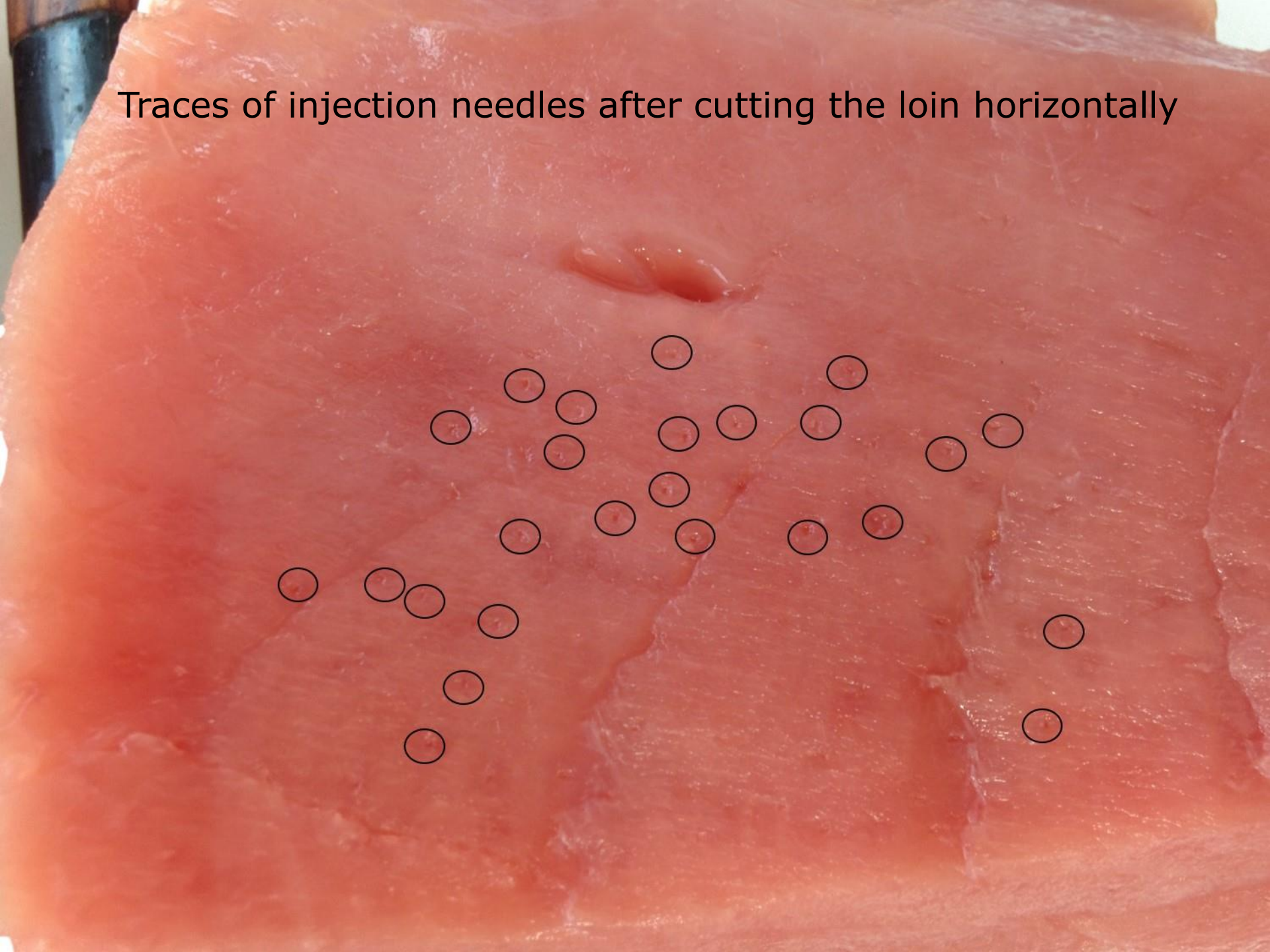


brown tuna = not fresh

Use of **vegetable extracts** with high concentration of **nitrites** and **nitrites** to enhance tuna's colour

Injection with and/or **immersion** in the solution to change the brown initial colour to red (looks fresh!)

Traces of injection needles after cutting the loin horizontally





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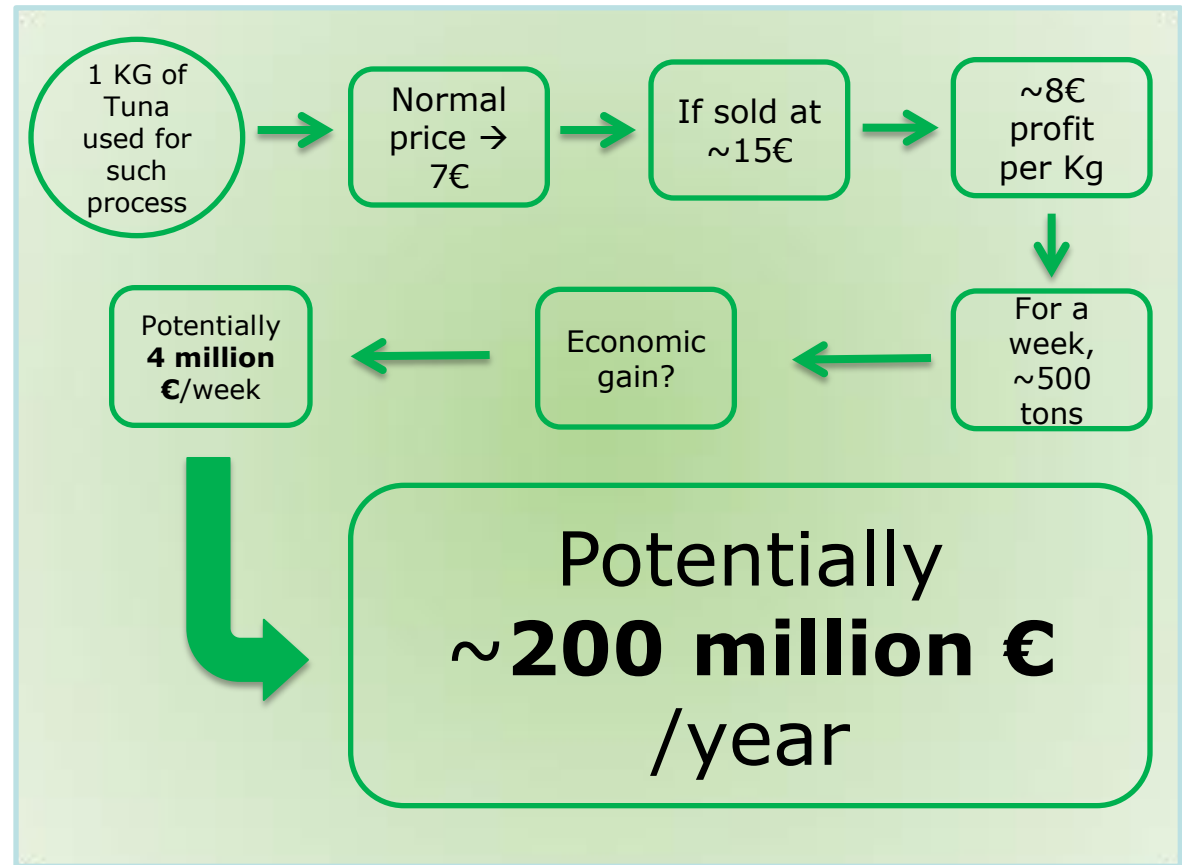
Economic Gain



Tuna primarily intended for **canned** tuna is actually sold as **natural fresh** tuna



Tuna's price is **2x** higher.
Approximately **5 million** tuna portions/week (**~ 500 tons**)*





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Food Fraud Criteria

1. Violation of EU Food Law

- Use of Nitrites and Nitrates via vegetable extract is **not authorised** in fish and fishery products

2. Intention

- Intentional use of Nitrates and Nitrites to **enhance tuna's colour**
- Nitrates and nitrites **not naturally present** in tuna

3. Economic Gain

- Poor/average quality tuna sold **twice its price**.
- Potentially **200 million € /year**

4. Customer Deception

- Poor quality tuna bought as high quality
- **Public health issue**
 1. too high level of **histamines** (**allergenic effects**)
 2. Nitrites may lead to formation of **nitrosamines** (**carcinogenic**) during digestion



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Action plan

May 2016

Meeting at
request of
Seafood industry
representatives



DG SANTE

EU coordinated
action



DG SANTE

Screening of RASFF Alerts
high levels of histamine in tuna

Aug 2016: Italy

5 persons hospitalized

Sept 2016: France

Histamine (1200 mg/kg – ppm)

Same establishment in Spain



Cooperation between DG SANTE and Industry

- **Raise awareness:**
 - DG SANTE to **MS competent authorities**
 - Seafood sector to **Industry**
- **Information of DG SANTE/MS about new suspicion of fraud**



RASFF

European Rapid Alert System
for Food and Feed



Request for complementary analysis

**Detection of presence
of nitrates/ nitrites
(vegetable extracts)
and anti-oxydants**



**Inspection by
Spanish local
authorities**

**New case: Activation of
EU Food Fraud Network (FFN)**



Health and
Food Safety



European
Commission

Media Coverage (5 Oct 2016)



Non official Translation from La Repubblica.it

"In 2015 - a record year - the cases of intoxicated people by scombroid syndrome (Histamine) were **47** in the city. Between 1st January and 31st August 2016, so in eight months, **38 patients suffered for "sushi sickness"**, and **7 new cases** were declared in September.

*"We cannot talk about an epidemic, but **certainly there are several worrying outbreaks**- Dr. Fracchia says - who goes eating fish should do so being aware of the risk. And go to restaurants where they know the standards of quality".*

***Boom of illnesses and hospitalizations:
Alarm in Milan for "Sushi Syndrom"***



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Tips for inspection/investigation



Inspection in the Fish industry
where no canned Tuna is produced

Injection
equipment -
machinery



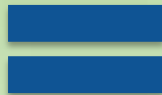
Unpacking of
vacuum
packs
(not always)



Brown Tuna
(not fresh)



High levels
of
Histamine



High probability of
fraudulent activities

In the Fish industry



Check invoices for vegetable
extracts

Check storage rooms

Check final price



In the additives industry
Producers or intermediaries
(vegetable extracts)



Check customer lists for
fish operators
→ On the spot
inspection/investigation
in suspicious fish factories

