

The European Commission's science and knowledge service

Joint Research Centre

The European Commission Knowledge Centre for Food Fraud and Quality

Franz Ulberth

JRC.F.4 Fraud Detection and Prevention

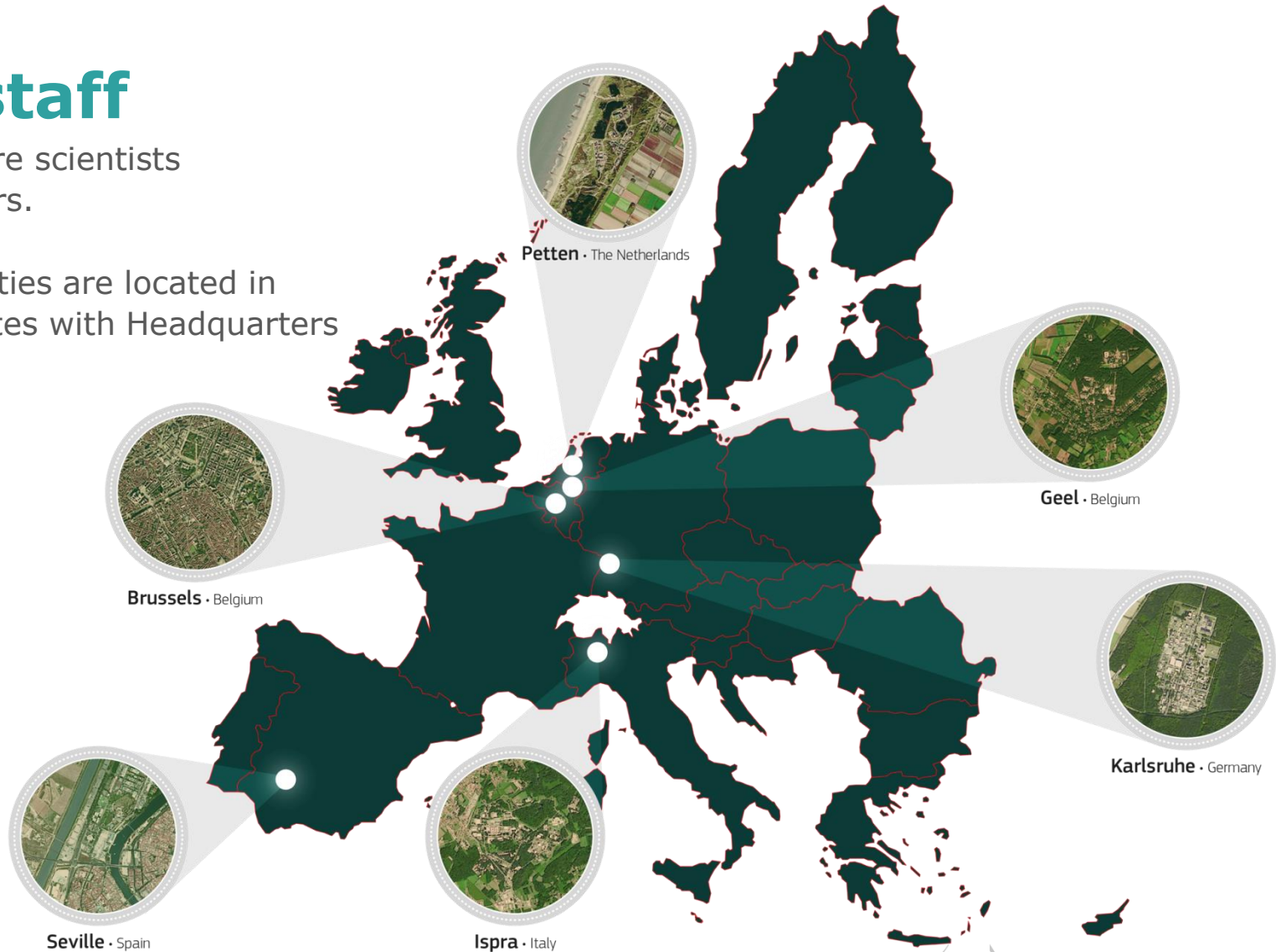


The Joint Research Centre at a glance

3000 staff

Almost 75% are scientists and researchers.

Research facilities are located in 5 Member States with Headquarters in Brussels





JRC response to global challenges

- Economy, finance and markets
- Energy (including nuclear activities) and transport
- Educations, skills and employment
- Food, nutrition and health
- Environment, Resource scarcity, climate change and sustainability
- People, governance in multicultural and networked societies
- Civil security
- Migration and territorial development
- Data and digital transformation
- Innovation systems and processes

'[.....] organized crime groups now also counterfeit daily consumer goods such as detergents, food stuffs, cosmetic products and pharmaceuticals.'

*EU Serious and Organised Crime
Threat Assessment (SOCTA 2013)*



Legal basis

Regulation (EC) No 178/2002 (General Food Law)

Article 8

Food law shall aim [...] at the prevention of:

- (a) fraudulent or deceptive practices;**
- (b) the adulteration of food; and**
- (c) any other practices which may mislead the consumer.**

Official Controls Regulation (Regulation (EU) 2017/625)

Article 9

General rules on official controls

1. Competent authorities shall perform official controls on all operators regularly, on a risk basis and with appropriate frequency, taking account of:

[....] any information indicating the likelihood that consumers might be misled, in particular as to the nature, identity, properties, composition, quantity, durability, country of origin or place of provenance, method of manufacture or production of food.

2. Competent authorities shall perform official controls regularly, with appropriate frequencies determined on a risk basis, to identify possible intentional violations of the rules [....] perpetrated through fraudulent or deceptive practices, and taking into account information regarding such violations shared through the mechanisms of administrative assistance

Key characteristics of food fraud

Violation of EU food law

Intention

Economic gain

Customer deception



Dilution

Mixing a liquid ingredient of high value with a liquid of lower value.



Substitution

Replacing an ingredient, or part of the product, of high value with another ingredient, or part of the product, of lower value.



Concealment

Hiding the low quality of food ingredients or product.



Mislabelling

Placing false claims on packaging for economic gain.



Unapproved enhancement

Adding unknown and undeclared materials to food products to enhance the quality attributes.



Counterfeiting

Copying the brand name, packaging concept, recipe, processing method etc. of food products for economic gain.

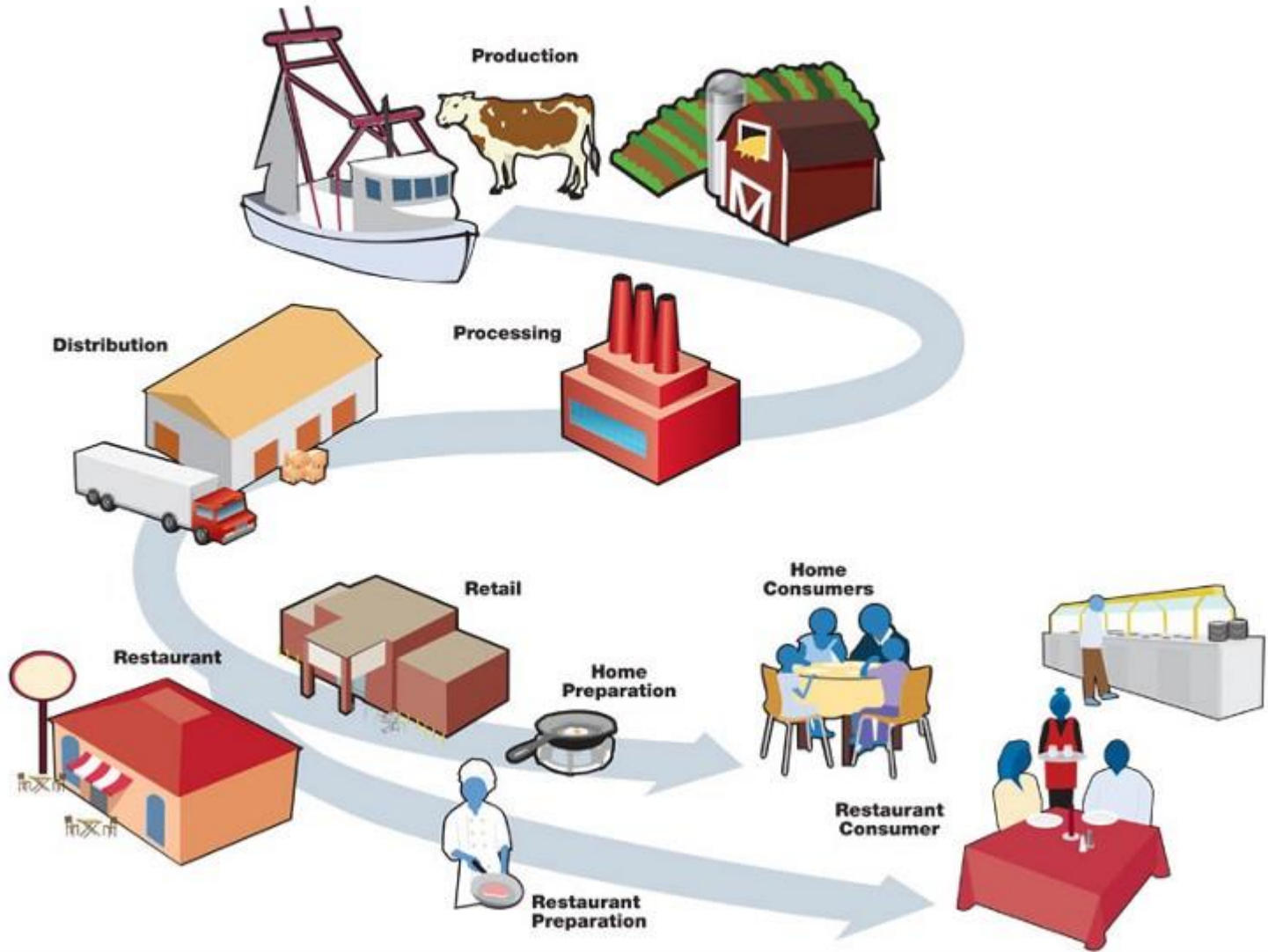


Grey market production/theft/diversion

Sale of excess unreported product.

Source: www.pwc.com/gx/en/services/food-supply-integrity-services/publications/food-fraud.html

The Food Production Chain



Source: www.cdc.gov/foodsafety/outbreaks/investigating-outbreaks/figure_food_production.html

IT'S NOT What You Think

WHAT FOODS ARE MOST SUSCEPTIBLE TO FOOD FRAUD?

How would you feel if you knew that the fresh bag of coffee you bought was actually composed of potato flour and acorns instead of your favorite Columbian blend?

This year, nearly 800 new records of such "food fraud" cases were added to the United States Pharmacopeial Convention's (USP) Food Fraud Database, an increase of more than 60% from just last year. The latest online repository includes food that has been purposely mislabeled, replaced with other ingredients, diluted, and tampered with for the purpose of economic gain. It may shock you to find that many of the food products that are most vulnerable to manipulation in today's food supply—and tagged at the full market price—are just your common grocery items.

WHAT IS FOOD FRAUD?

According to USP standards, food fraud occurs when a food product is deliberately:



All for economic gain.

It's difficult to detect food fraud when no immediate illness occurs, but severe health repercussions can result over an extended period of time.

SOURCE: U.S. PHARMACOPEIAL CONVENTION

LEGEND:

Food Product Number of cases reported in the USP

REPEAT VICTIMS

Below are the top 10 most fraudulent foods, as well as the ingredients they are commonly replaced or diluted with.



SECRET AGENTS

Clouding agents (such as fillers used in orange juice to make it look "freshly squeezed") were found in **877** food products from **315** different companies.

206 of such products were exported to as many as **22** different countries.



A COLLABORATION BETWEEN GOOD AND COLUMN FIVE

Source: www.good.is/infographics/infographic-what-foods-are-most-susceptible-to-food-fraud

Food Fraud Network



Substitution

- Seed oils
- Hazelnut oil
- Refined OO
- Soft deodorised OO



Misrepresentation

- False category
- Origin
- Harvest
- Cultivar
- Organic



"....most of the topselling olive oil brands we examined regularly failed to meet international standards for extra virgin olive oil."

Frankel et al. (2011)

Tools and services offered the EC Knowledge Centre for Food Fraud

Knowledge Base

Analytical Services

Networking

Incidence reporting (MedISys)



JRC Food Fraud Monthly Report



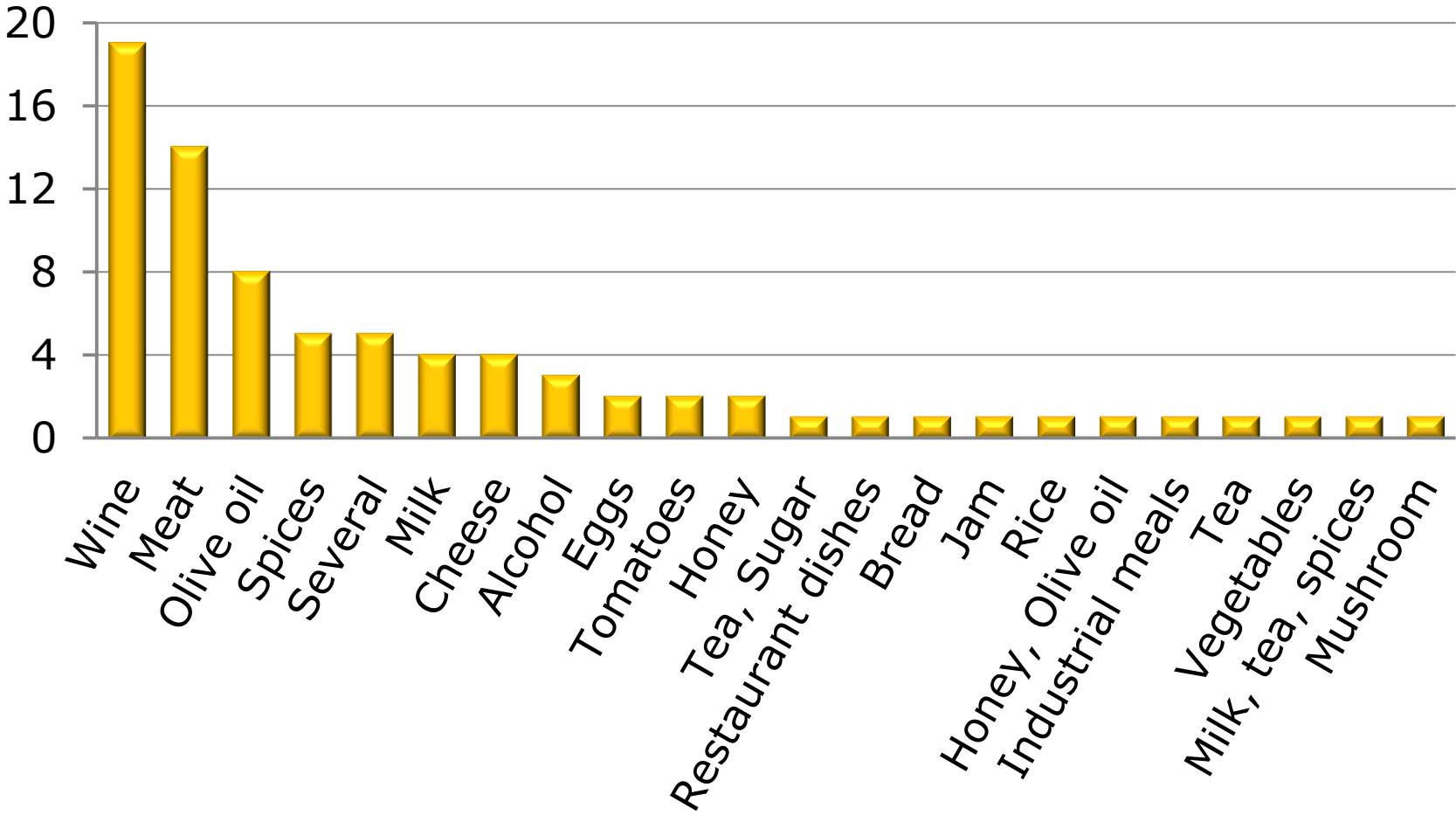
European
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<https://ec.europa.eu/jrc/en/research-topic/food-authenticity-and-quality>

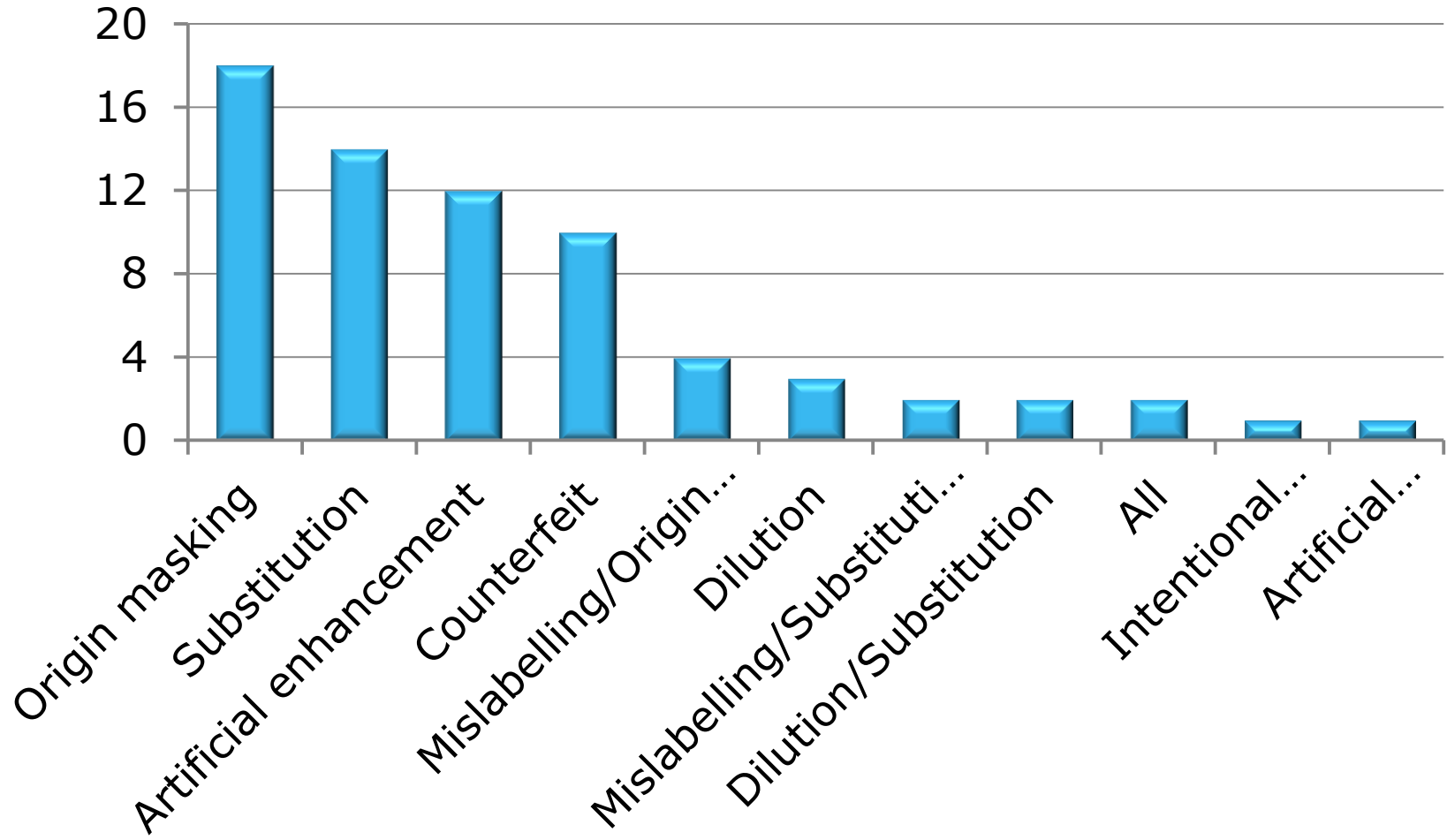


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Fraud cases reported by media in 2016



Fraud types observed in 2016



Methods database

BACK TO MAIN SITE DASHBOARD SAVE NEXT CONTENT PREVIOUS

New Entry Food Integrity Issue - Page 1 of 11

Food Category

Commodity Detail

CN code

[click for CN code access](#)

Description Add as free text to describe the issue

Type of fraud: Select one [click for examples](#)

- Dilution
- Substitution
- Concealment
- Mislabelling
- Unapproved enhancement
- Grey market
- Counterfeiting
- Other

Issue: Select one or more [click for examples](#)

- Product composition
- Geographical origin
- Botanical/Cultivar/Varietal/Species
- Production system/process
- Product quality
- Other issue

Compositional databases of authentic products

https://winedb.jrc.ec.europa.eu/winedb/Web/index.html?ticket=ST-7367425-mCeHz5nq89eF10onsi8SiF8zywmRdicH9zyxVvaebG6xpuzZ2ukRpOwHzYU

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European Wine Databank

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Home Samples Labs

European Reference Centre for Control in the Wine Sector – ERC-CWS

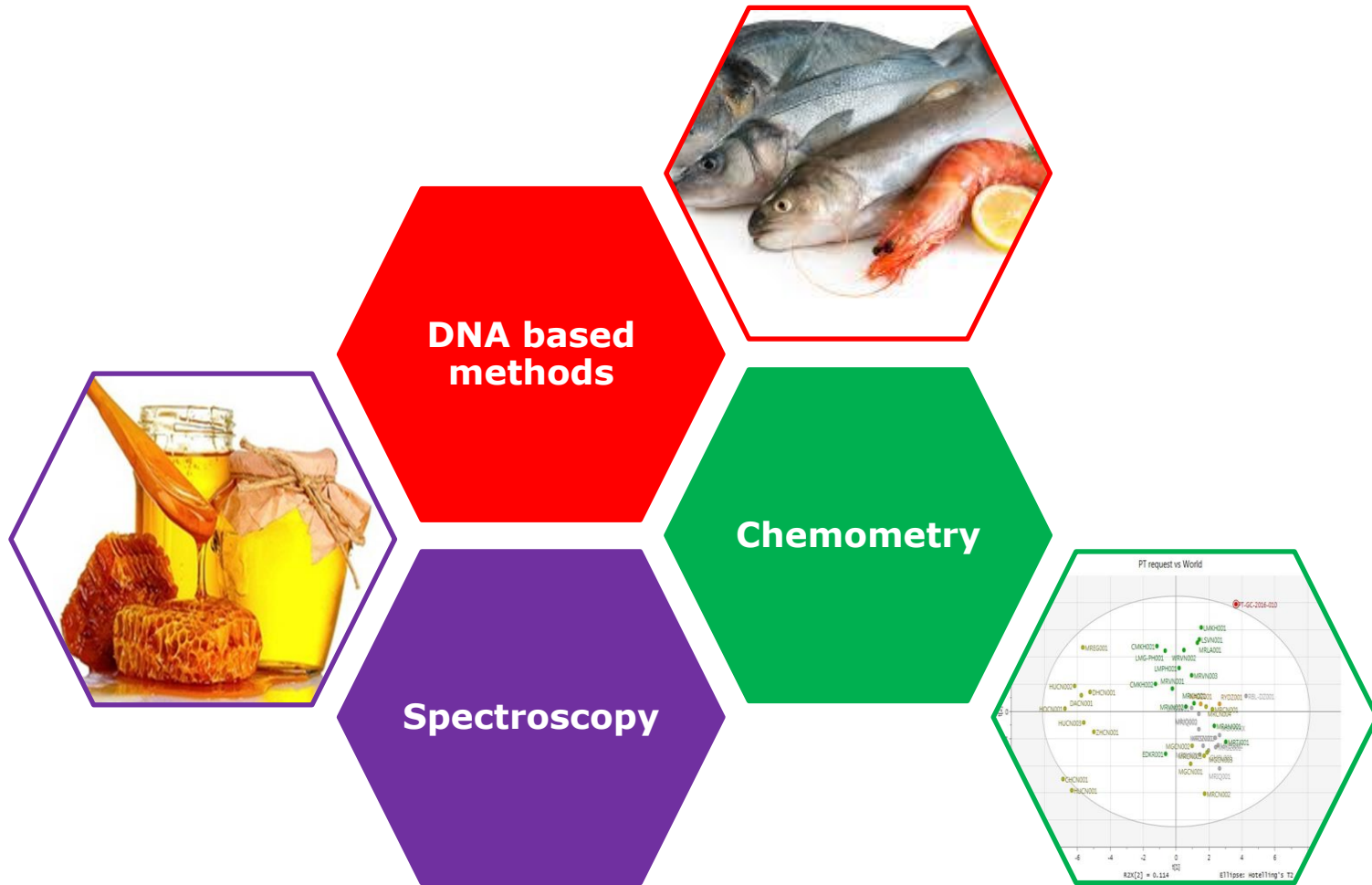
Welcome to the European Wine Databank

115%

Competence map



Analytical services (R & D)



Networking





I will not accept that in some parts of Europe, people are sold food of lower quality than in other countries, despite the packaging and branding being identical. We must now equip national authorities with stronger powers to cut out any illegal practices wherever they exist.

European Commission President Juncker, State of the Union Address, 13 September 2017

What are the next steps?

The Commission is working on a methodology to improve food product comparative tests so that Member States can discuss this issue on a sound and shared scientific basis that is the same for all.

Subjective



**'Fitness for
Consumption'**

Objective

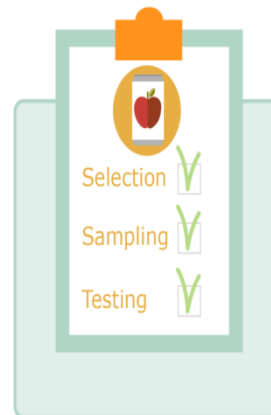
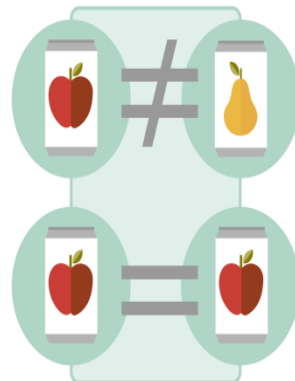
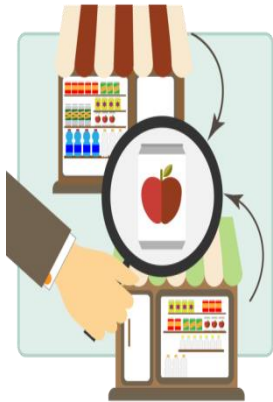


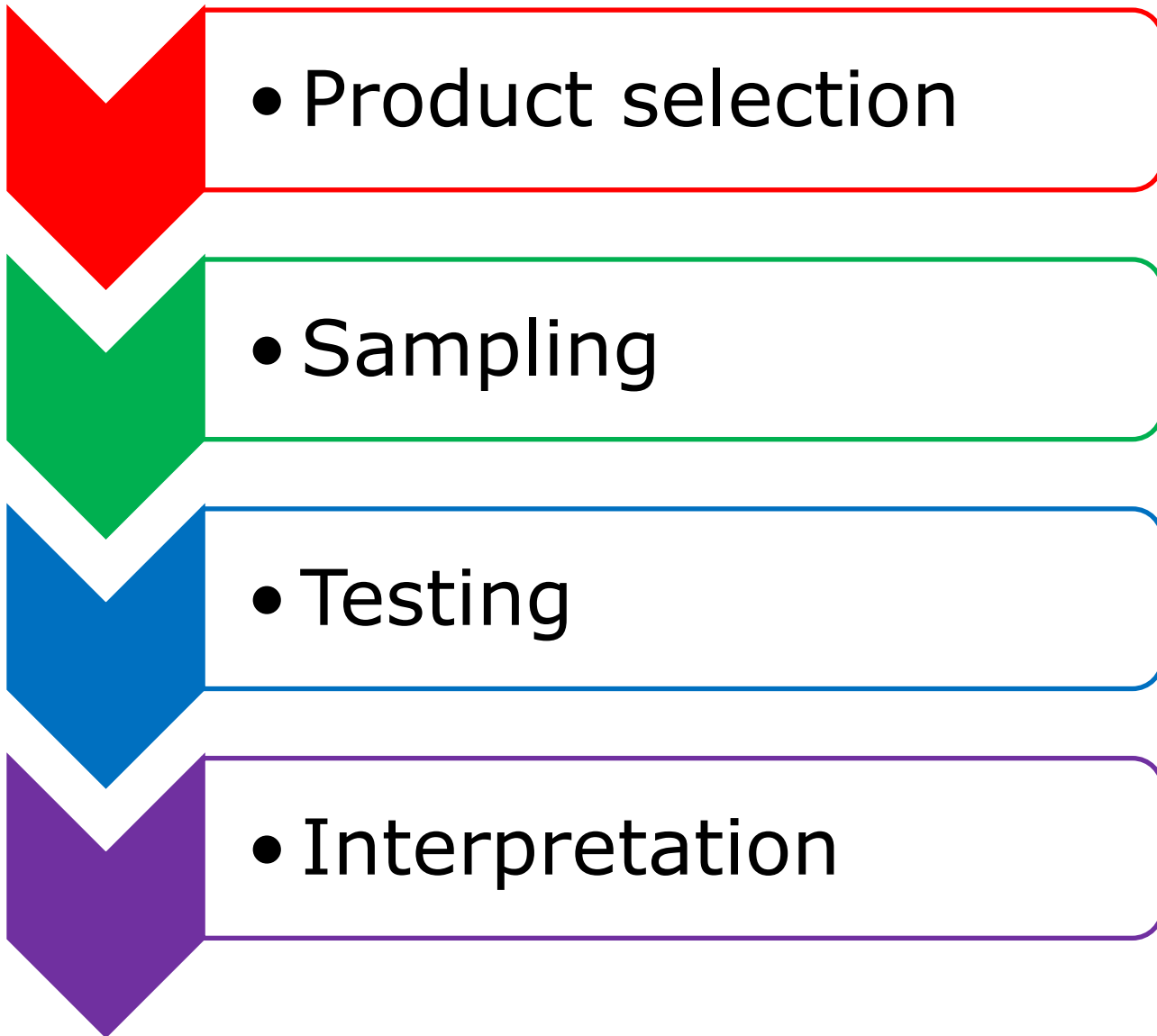
Purpose of the harmonised testing methodology

- a step towards comparable and authoritative tests across the EU
- create evidence on the dimension of the problem
- to allow enforcement authorities to perform market tests that involve product comparisons across different regions and countries



General Principles





Next steps

- *Preparation of the EU-wide testing campaign*
- *Start of the EU-wide testing campaign (July)*
- *Report end of 2018*

Stay in touch



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