



Misdescription incidents in European mass caterer

BACKGROUND

The provision of safe and authentic food produced in accordance with defined quality standards is a key expectation for European consumers, as well as a crucial selling point for the agri-food economy in Europe. European food is recognised globally for its high standards of production, labelling and safety. As such, it is **susceptible to lower quality imitations** that seek to exploit the added value that European products have with respect to consumers and the global food market.

Counterfeiting of food products has a major detrimental effect on the EU food industry as consumers start to doubt the authenticity of European brands, especially since the horse meat scandal. As a result, in recent years both governments (by reinforcing European laws on food labelling) and the food industry itself are highly engaged in establishing an infrastructure that will verify food authenticity/provenance. They are also seeking to actively contribute to assuring the authenticity of the food supply. The key to protect consumers and ensure the added value and integrity of European food is the rapid **bilateral exchange of information between the food industry (sales associations) and the government**, in order to spot suspected and real cases of food adulteration, and enforce laws and regulations that protect honest producers. This is the only way to guarantee the integrity of European exports against counterfeiting in any country, to understand consumers' shopping behaviour when faced with these threats to products' integrity, and to make the most of opportunities to develop new export markets for EU products.

Food authenticity and quality go hand in hand and both can have important implications on food safety. Failure to comply with the law includes mislabelling and an incorrect description of quality claims, as well as sophisticated, malicious and dangerous frauds that seek to make money. **The major implications for food harmlessness and public health risks** should not be ignored.

The **European project FOODINTEGRITY** covers this need: to ensure the integrity of the food chain. Participants include 38 partners from 18 European countries, including 16 Member States, 2 NGOs (the FAO and the European Commission Joint Research Centre) and a participant from China. More than a third of the consortium comes from the food industry, including 6 SMEs.

Adulteration and mislabelling on products in Europe like olive oil, spirits and fish products has been analysed as part of the European project.

The investigation into **fish products** has focused mainly on four countries: Iceland (main fish exporter); Norway (main farmed fish and fishing exporter); Spain (main importer of fish products in Europe and also a great exporter) and UK (one of the main importers of fish products in Europe).

AZTI technology centre, which specialises in methodologies to ensure the authenticity and origin of raw materials and ingredients, has led the work group, together with the Icelandic Matis Institute, to analyse adulteration and mislabelling on fish products.

ANALYSIS



Evaluation of misdescription incidents in European restaurants. This survey was focused on HORECA sector (restaurants, hotels, catering, self-services, bar, pub, take away, etc...) all over Europe. AZTI and MATIS have collected 282 samples from 179 restaurants in 23 European countries. The main objective of this survey is to elucidate the % of restaurants serving fish that does not fit which is detailed in the menu. In addition, we can identify the main fish species substituted with others to implement adequate self-control systems in the own sector to increase the confidence of final consumer in seafood products.

METHODOLOGY

- / Fish survey was performed from 2015 to 2016.
- / Sampling plan was designed at random stratified according to % of fish consumption (kg/capita/year) in different countries. Taking advantage of citizen science, we have involved more than 100 amateur or nonprofessional scientists and scientists as collectors of fish samples from European restaurants.
- / These samples were collected following a detailed protocol following previous and similar fish surveys [1, 2]. All the confidence intervals ($\alpha=0.05$) were calculated using Wilson's method [1].
- / Samples were managed following the directive UNE-EN-ISO 9001:2000 and subsequently analyzed with standard protocols, based on DNA tests, validated in different European and international projects (LABELFISH, Barcode of Life) and for several peer reviewed scientific articles [1, 3-7]. In the case of tunas, the species identification was complemented with a molecular method accredited under the directive UNE-EN-ISO 17025:2005.

MAIN RESULTS

- / 32% ($\pm 7\%$) of restaurants served mislabeled fish in the menu.
- / The rate of mislabeling does not differ significantly between species except following cases:
 - / 50% mislabeling of sole
 - / 58% mislabeling of red tuna
 - 27% mislabeling of cod
- / The higher % of fish mislabeling was detected in caterings, canteens and take away restaurants.
- / 72% ($\pm 9\%$) of mislabeled fish samples were substituted with cheaper fish species with an economical motivation.

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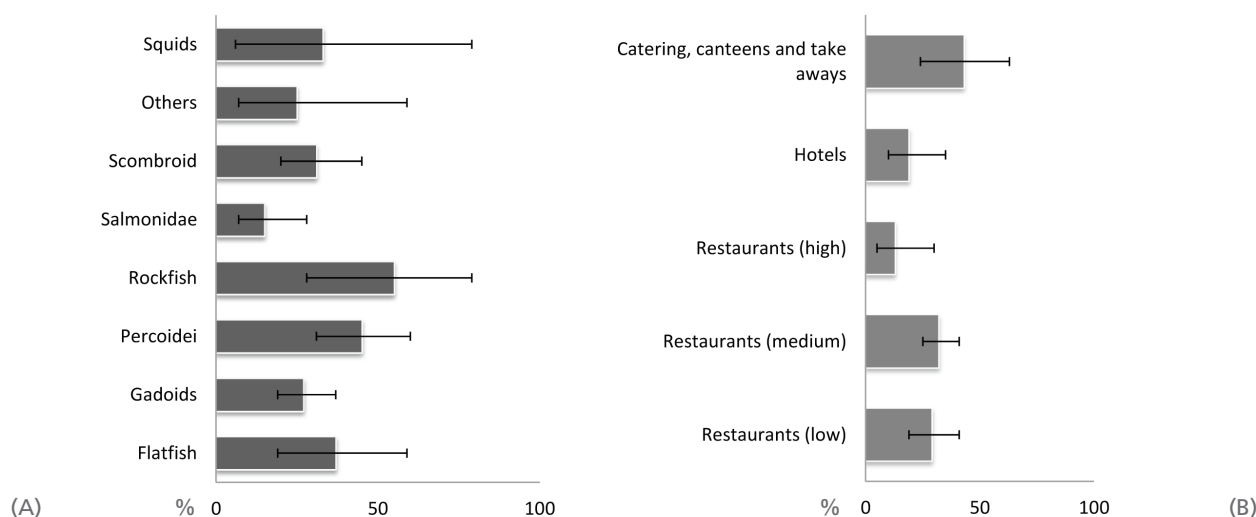


Figure 1. Mislabeled in European restaurants regarding to the fish species detailed in the menu (A) and types of restaurants (B)