



Nordic Council
of Ministers

FOOD FRAUD

**a Joint Nordic
Threat Assessment**



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This publication is also available online in a web-accessible version
at: <https://pub.norden.org/temanord2022-546>.

Introduction

Food Fraud has become an important issue throughout the EU and EEA following the horsemeat scandal¹ in 2013. The topic was discussed at the EK Livs autumn meeting in 2016 and there was agreement that the Nordic countries undertake comparable administration of the food production chain and that the markets are closely linked. It is therefore natural to look at criminal activity in the food production chain across Nordic borders. The countries agreed to prioritise a joint Nordic project.

In the spring of 2018, funding was allocated for a project that would examine the joint threats arising from criminal activity in the Nordic food production chain. The countries participating in the project are Norway (leader), Denmark, Iceland and Sweden.

The collaboration began with a methodology seminar for participants in December 2018, the purpose of which was to discuss what a threat assessment is and what we know about fraud and deception in the Nordic market. International experts from the UK and the USA, as well as experts from the customs authorities and the police, also participated in the seminar. In 2019, Denmark, Norway and Sweden carried out national threat assessments as a contribution to the Nordic report. A seminar for Icelandic Food and Veterinary Authority inspectors and local inspectors was arranged in Iceland and was also attended by US participants.

1. Horsemeat detected in meat products declared as 100% beef. The findings were across EU/EEA and resulted in 50 tons of meat products being recalled from the market.

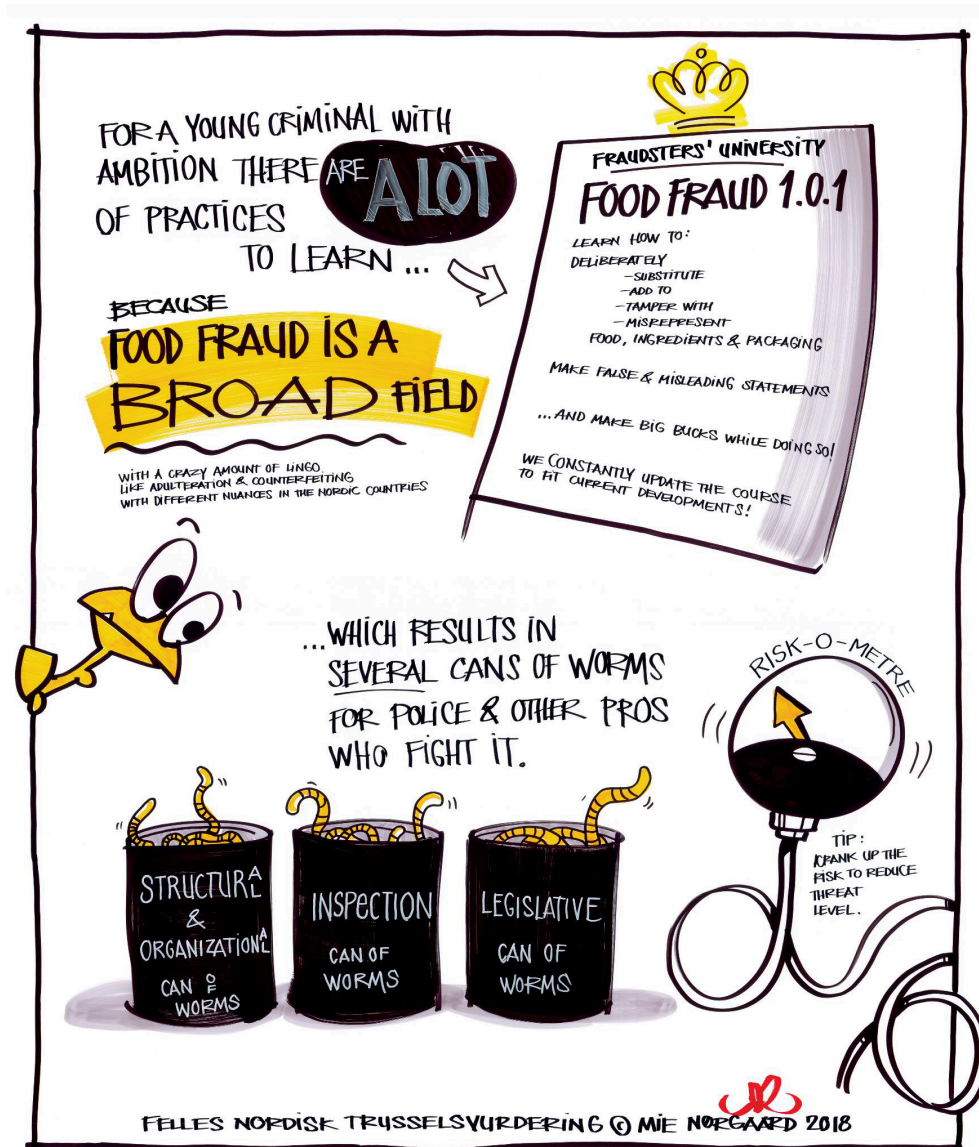


Illustration 1. From the methodology seminar, 2018. Mie Nørgaard, 2018

Overview

Like other European markets, the Nordic market is exposed to criminal actors who intentionally commit criminal offences to secure financial gain. We possess a great deal of information that confirms that fraud takes place, whether organised or non-organised, via certain market paths and within exposed product areas. The Nordic working group initially chose a few topics that we all considered important to address. In the continued work, these topics have been discussed and examined with a somewhat different focus in the different countries.

These are the priority topics addressed in this threat assessment:

Raw materials of animal origin

Traditionally, raw materials of animal origin are subject to a great deal of fraud. These are raw materials that may secure good financial gains in the market, whether it is a case of evading customs duties and taxes through smuggling or theft, substituting cheaper raw materials in gourmet products or through unlawful production and sales processes that ignore expensive hygiene requirements. All of the Nordic countries experience cases such as these, albeit with somewhat different focuses.

Fish and seafood

Internationally, fish and seafood is considered one of the top three foodstuffs that are subject to fraud. Fish and seafood production is crucial in all Nordic countries and even the smallest of fraud cases can have a serious impact on parts of the industry. There are many examples of serious fraud cases, including in the Nordic countries, and there is a need to maintain the focus on this industry.

Declaration of Nordic origin

Declaring that a product originates from the Nordic region is attractive. It often leads to the product being able to command a higher price, as well as increased sales in the Nordic market and reduced taxes. Food production in the Nordic region is expensive compared to many other countries and it is therefore also attractive for criminal actors to try to present products from lower-cost countries as having been manufactured in the Nordic region. It can also be difficult to verify such claims. The food authorities in the Nordic countries need to intensify checks relating to this issue.

Declaration of organic production

Organic production in the Nordic countries takes place in small and transparent industries and there do not appear to be any challenges here. Nevertheless, there are numerous opportunities for fraud when importing from other countries and there are great profits to be made from being able to sell the product as an organic product in the Nordic market. There is consensus that we need to be vigilant in relation to such activities.

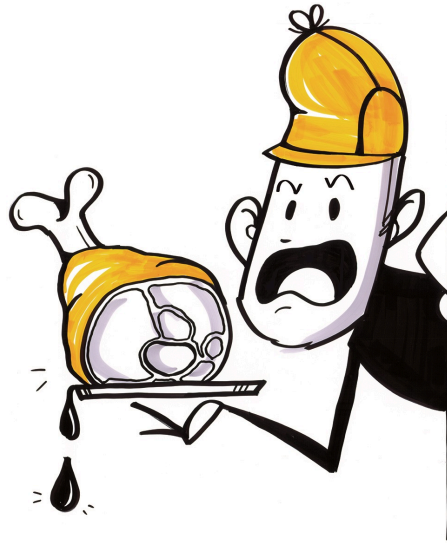


Illustration 2. Mie Nørgaard, 2018

Methodology and limitations

At the seminar in December 2018, the countries were introduced to various considerations that should be made when performing a threat assessment, including the need to select a model that provides sufficient information about the threat. It was also stressed that the simplest and best starting method for the collection of data is to verbally ask experts using structured questionnaires as the basis for feedback. This is referred to as the "Expert Insight" method or "Structured Workshops"².

The countries conducted their threat assessments with slightly different types of groups, adjusted to their authority and opportunity to prioritise. Denmark arranged dedicated workshops for internal experts by topic, Sweden conducted the assessments centrally with the authorities and Norway arranged two workshops across the topics, one for field inspectors and one for representatives from parts of the food industry. Iceland convened an open meeting with inspectors and a US expert, as well as other Icelandic speakers. This formed the framework for the work as the different countries had different starting points.

The Danish representatives developed a model for threat assessment of food fraud based on the three previously described models. The Food Fraud Vulnerability Concept, which assesses the threat of food fraud based on opportunities, motivation and supervisory measures. The OECD's Financial Action Task Force (FATF)^{3 4}, which assesses the threat from a socioeconomic perspective and a risk matrix inspired by John Spink, USA, which was developed for vulnerability assessments for the industry, in which impact and probability are linked.

Knowledge and inspiration has therefore been gathered from food inspections, socioeconomics and the international fight against crime.

The final model has been broken down into four dimensions (opportunity, motivation, supervisory measures and impact) that are examined using a number of sub-questions that the participants are asked to rank using a subjective score. High, moderate, low and unknown. For the purposes of this assessment, "unknown" has been an available option to facilitate the review, since everyone considers large amounts of figures and statistics to be missing. It is difficult to highlight this using a classic probability/impact model, but it was important to us to allow the experts to say "don't know". For the overall Nordic report, we have chosen not to present the maps themselves, as the national assessments were performed using very different access to experts and the use of the unknown had slightly different outcomes.

An overall subjective assessment of the threat has been presented after each topic in this joint Nordic report based on what was addressed in the national assessments. Two financial parameters have been assessed: reputation and financial loss and two social parameters: food safety and consumer confidence. Impact and probability are

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2. The method was presented at the seminar in Copenhagen in December 2018, John Spinks, USA (Expert Insights) og Lorna Trimmell, UK (Structured Workshops).
 3. Silvis, I.C.J., van Ruth, S.M., van der Fels-Klerx, H.J. & Luning, P.A. (2017). Assessment of food fraud vulnerability in the spices chain: An explorative study. *Food Control*, 81, 80–87. <https://doi.org/10.1016/j.foodcont.2017.05.019>
 4. van Ruth, S.M., Huisman, W. & Luning, P.A. (2017). Food fraud vulnerability and its key factors. *Trends in Food Science & Technology*, 67, 70–75. <http://doi.org/10.1016/j.tifs.2017.06.017>

ranked from very low to very high.

Table 1. Food Fraud threat assessment model developed in connection with the project

Dimension	Subpoints	
1) Opportunities	Technical possibilities	• Simplicity/complexity of fraud/substitution/forgery • Availability of technology and knowledge to conduct fraud/substitution • Availability of tracing technology, e.g. analytical methods
	Opportunities of time and space	• Access to production or processing materials • Transparency in the supply chain/value chain • Historical/previous cases/behaviours
2) Motivation	Financial motives	• Availability and price of production materials • Special product characteristics or value-adding ingredients/raw materials • Price differences between countries or markets • The financial situation of the company • Intensity of competition in the market, financial pressure on subcontractors/direct suppliers
	Culture and conduct	• Business strategy • Ethical/moral business culture • Previous criminality/criminal cases • International/national corruption levels • Exploitation/victimisation
3) Supervisory measures	Technical	• Specific and/or accurate systems to prevent/monitor fraud • Inspection/auditing of fraud prevention/monitoring systems • Accurate/reliable mass balance systems/inspections • Efficient and widespread traceability systems • Fraud contingency plan
	Prevention	• High moral and ethical standards • Screening of potential employees • Supportive whistleblowing schemes • Auditing of suppliers and supplier requirements • Social supervision and transparency in the supply chain/value chain • Known guidance/advice for the prevention of fraud in the supply chain/value chain • Specific national policy to combat food crime • Government initiatives/enforcement of legislation
4) Impact	Financial	• Reputation in the public eye • Financial loss on the part of the government and the consumer
	Societal	• Food safety for consumers • Consumer confidence in the product category or industry

Table 2. The assessment model from the University of Copenhagen (Department of Food and Resource Economics, IFRO⁵, inspired by the OECD Financial Action Task Force (FATF))

RISK FACTOR	Low risk	Moderate risk	High risk
	Difficult	Moderate	Easy
OPPORTUNITIES	Associated with significant costs, requires significant planning, knowledge and/or technical expertise.	Associated with limited costs, requires moderate planning, knowledge and/or technical expertise.	Associated with low costs, requires little or no planning, knowledge and/or technical expertise.
	Significant	Limited	Insufficient
SUPERVISORY MEASURES	There are adequate inspections and food fraud attempts will likely be detected.	There are limited inspections and food fraud attempts are less likely to be detected.	Food fraud attempts are difficult to detect due to shortcomings in/ lack of inspections and/or few indicators of suspicious behaviour.
	Little or no impact	Moderate impact	Major impact
SOCIETAL IMPACT	No people are affected, suffer injury or loss.	Several people are affected, suffer injury or loss.	Many people are affected, suffer injury or loss.

Table 3a. Model for assessment of impact and probability.

		PROBABILITY				
		Very High	High	Moderate	Low	Very Low
I M P A C T	Very High					
	High					
	Moderate					
	Low					
	Very Low					
COLOUR CODES		high risk	moderate risk	low risk	very low risk	

IMPACTS

Economic:

OD = Reputation

ØT = Economic loss

Societal:

MT/FS/LS = Food Safety

FT = Consumer confidence

5. Teuber, R. (2019). Review of socioeconomic tools and models for preventing, detecting, and mitigating food fraud. Department of Food and Resource Economics, University of Copenhagen. IFRO Report, No. 278

Table 3b. Model for the overall assessment of impact and probability used in the national threat assessments with the unknown dimension.

		PROBABILITY			
		High	Moderate	Low	Unknown
I	High				
M	Moderate				
P					
A	Low				
C	Unknown				
T					

The countries agreed on some common topics that it is relevant to address. There was also a consensus on the need for flexibility in national assessments to reflect the situation and priorities in each country.

All of the countries found it important to address the areas of meat and meat products, as well as seafood. Other topics that were also considered relevant were organic production and the use of declarations of origin. Fruit and vegetables were also mentioned initially and have been addressed by several participants under both organic production and origin but were not prioritised as a separate topic to address in this instance.

All of the participating countries have also obtained information from previous studies, results from the previous supervisory inspections and the notification systems AAC and iRASFF in the EU/EEA.

The countries used different assumptions and this influenced how they worked on the national assessments. In Denmark, there is a dedicated unit that has been working purposefully to manage suspected food fraud for many years. In Sweden, the Swedish National Food Agency has been working on a national threat assessment at a central government level. This has been part of the Swedish National Food Agency's efforts to detect and prevent food fraud. Norway is still at the starting line when it comes to targeted inspections and has few dedicated resources but has more inspectors that have partly specialised in the management of food fraud cases. Iceland has a relatively small market and few government resources.

The assessments provide a snapshot and should be regularly updated to stay relevant. While this work was being summarised in 2020, the world was hit by a serious pandemic caused by a coronavirus, SARS-Cov-2 and this could also give rise to new driving forces and opportunities for fraud and deception in the food production chain. Opinions in international reports on the importance of the pandemic when it comes to fraud in the market are divided. This assessment will not address any new threats that may have arisen as a result of the pandemic and the global situation it triggered, but several of the countries have already drawn up national risk and vulnerability assessments in relation to the incident.

This threat assessment also contributes towards the fulfilment of requirements in the new Control Regulation, Regulation (EU) 2017/625, Article 9.2. Here, requirements are placed on member states conducting risk-based inspections of businesses suspected of intentional deceptive practices and fraud in production.

Even though the enclosed national assessments do not cover the entire administrative area of the Control Regulation, they still constitute a good contribution towards risk-based supervision and this can be further developed to fulfil the requirements set down in the Control Regulation.



Illustration 3. From the methodology seminar, 2018. Mie Nørgaard, 2018

Use of terms

The focus on supervision and prevention of fraud and deception in the food production chain has led to many new terms being used in food inspection efforts. Many of these have been borrowed from other crime prevention efforts and are often not directly addressed and defined in the regulations aimed at the food authorities. Many participants have identified the need to explain and define some of these terms in relation to the food authorities' work. In this project, which was conducted concurrently in four Nordic languages, we have realised that there is a need to create a comparative overview of terms used in Danish, Icelandic, Norwegian and Swedish. A kind of glossary for the joint Nordic effort to combat fraud and deception in the food production chain.

The terms we highlight should reflect the terms normally used in each country and are not intended as a direct translation of the terms from English. We also anticipate that this glossary may be adjusted and expanded in line with new terms coming into use in each country in connection with their activities and regulations.

We started the work based on the English terms that we have all dealt with in relation to joint European efforts. The English definitions have been taken from the European Commission's websites on food fraud⁶, the Food Integrity Handbook⁷ and an ISO workshop agreement on authenticity and fraud in the food and feed chain⁸. The latter reference is available only behind a paywall but was purchased as relevant literature for the project. We have also aimed to use legal definitions from common regulations aimed at food authorities, where these exist. It must be noted that criminal law provisions are not harmonised within the EU/EEA and also not within the Nordic region.

When the work started, the term "Food Fraud" did not have a legal definition in the EU/EEA. Four qualification criteria were used and had to be met in order to explain what is meant by the term in connection with the community's use of the term fraud and deception in the food production chain. These criteria are intent, violation, financial gain and deception of the customer. These criteria remain, but a legal definition has since been added to the regulations that follows up on the new Control Regulation for the food industry, Regulation (EU) 2017/625. The definition can be found in the "IMSOC" Regulation, Implementing Regulation (EU) 2019/1715. The definition is:

"suspected intentional action by businesses or individuals for the purpose of deceiving purchasers and gaining undue advantage therefrom, in violation of the rules referred to in Article 1 (2) of Regulation (EU) 2017/625"

Many theoretical presentations of food safety, food quality and food fraud also describe an area referred to as food defence. This refers to intentional actions aimed at harming society, businesses or people. This report does not address threats that

6. https://ec.europa.eu/food/safety/food-fraud/what-does-it-mean_en

7. Jean François Morin and Michèle Lees (Ed), FI Handbook on Food Authenticity Issues and Related Analytical Techniques, ISBN electronic version 978-2-9566303-1-9, <https://secure.fera.defra.gov.uk/foodintegrity/index.cfm?sectionid=83>

8. CEN Workshop Agreement CWA 17369:2019, published January 2019

have been made with the aim of harming society.

The fact that we refer to this report as a **threat assessment** and not a **risk assessment** is a conscious choice. A threat assessment focuses on the actual threat and the opportunity and motivation to commit a criminal act in relation to the extent of damage it can cause to the individual or society as a whole. A risk assessment focuses on the probability of something going wrong and the consequences of the specific risk. A risk assessment highlights inherent and internal vulnerabilities, whether in the production, the ability to detect and control the act or vulnerabilities that concern the supervisory authorities or law-abiding businesses.

There are some minor nuances between these assessments but it is also easier to collect information and publish results when there is less focus on the internal and inherent vulnerabilities. Focusing on describing threats is a recommendation that was emphasised by both the National Authority for Investigation and Prosecution of Economic and Environmental Crime in Norway and the National Food Crime Unit (NFCU) in the UK at the joint Nordic methodology seminar in December 2018.

Figure 4. Glossary of terms in several Nordic languages

Begrep	Engelsk definisjon	Dansk	Islandsk	Norsk	Svensk
Food Fraud	Any suspected intentional action by businesses or individuals for the purpose of deceiving purchasers and gaining undue advantage therefrom, in violation of the rules referred to in Article 1(2) of Regulation (EU) 2017/625 (the agri-food chain legislation) ¹⁰	Fødevarer-svindl	Matvælasvindl	Matsvindl	Livsmedelsbedrageri
Traceability	The ability to trace and follow food, feed, food-producing animals, and any other substance intended to be, or expected to be, incorporated into a food or feed shall be established at all stages of production, processing, and distribution. ¹¹	Sporbarhed	Rekjanleiki	Sporbarhet	Spårbarhet
Counterfeit	Infringements to intellectual property rights. ¹²	Overtrædelse af immaterielle rettigheder	Brot á hug-verkarétti	Brudd på immaterielle rettigheter	Immaterialrättsbrott
Adulteration	Poorer quality by adding another substance. ¹³	Forfalskning	Vörufölsun	Vare forfalskning	Förfalskning
Falsification (often referring to document falsification)	Fraudulently alter or misrepresent. ¹⁴	Forfalskning / dokumentfalsk	Fölsun/ skjalafölsun	Forfalskning / dokument forfalskning	Förfalskning / dokument-förfalskning
Mislabelling	False claims or distortion of the information provided on the label / packaging. ¹⁵	Vildledning	Villandi merking	Villedende merking	Vilseledande information
False trademark / Misbranding	Falsification of a registered trademark as defined in Regulation (EU) No 608/2013. ¹⁶	Varemærke-forfalskning	Vörumerkja fölsun	Forfalsket varemerke	Förfalskning av varumärken
Substitution	Process of replacing a nutrient, an ingredient, a food or a part of a food with another one of lower value. ¹⁷	Substitution	Skipta út/breyta	Erstatning / Substitusjon	Ersätta/byta ut
Concealment	Process of hiding the low quality of food ingredients or products. ¹⁸	Skjule	Fela	Skjule	Dölja
Tampering	Change product characteristics so that they no longer match the implicit or explicit claims associated with the product. ¹⁹	Vildledning eller svindel (der er fiflet med produktet)	Ólölegar breytingar á gerð vöru/svindl	Villedning/ svindel/ uredelighet	Ändring av ett livsmedels karaktäristiska egenskaper/ manipulera livsmedel i vilseledande syfte
Dilution	Process of mixing an ingredient with high value with an ingredient with a lower value. ²⁰	Fortynding	Þynning	Fortynning	Utspädning
False Claims	Falsification of any message or representation, which is not mandatory under Community or national legislation, including pictorial, graphic or symbolic	Falsk anprisning	Falskar fullyrðingar	Falske påstander	Falska påståenden

	representation, in any form, which states, suggests or implies that a food has particular characteristics. ²¹				
Misrepresentation	Represent wrongly or give false account of. ²²	Falsk markedsføring	Fölsk markaðssetning	Falsk/ uredelig markedsføring	Falsk marknadsføring
Authentic	A match between the actual food product characteristics and the corresponding food product claims. ²³	Ægte	Ekta	Ekte/ autentisk	Äkta/ autentisk
Food Safety	The policy within the EU/EEA designed to guarantee safe, nutritious food and animal feed, high standards of animal health and welfare and plant protection, as well as clear information on the origin, content, labelling and use of food. ²⁴	Fødevarerikkerhed	Matvælaöryggi	Mattrygghet	Livsmedelssäkerhet
Mislead	Lead astray, cause to go wrong in conduct or belief. ²⁵	Vildlede	Villandi	Villedning	Vilseleda
Deception	Mislead purposely. ²⁶	Vildledning/ svig	Blekkingar	Bedrageri	Bedrägeri
Grey Market	Production, theft, and diversion involving unauthorised sales channels for products. ²⁷	Sort marked	Svartur markaður	Grå/sort marked	Grå/svart marknad

Notes: 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26

9. Commission Implementing Regulation (EU) 2019/1715 of 30 September 2019 laying down rules for the functioning of the information management system for official controls and its system components (the IMSOC Regulation) <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32019R1715&qid=1611134037247>
10. Regulation (EC) No 178/2002 of the European Parliament and of the Council of 28 January 2002 laying down the general principles and requirements of food law, establishing the European Food Safety Authority and laying down procedures in matters of food safety (Food Law) <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A02002R0178-20190726&qid=1611134440348>
11. https://ec.europa.eu/food/safety/food-fraud/what-does-it-mean_en
12. Jean François Morin and Michèle Lees (Ed), FI Handbook on Food Authenticity Issues and Related Analytical Techniques, ISBN electronic version 978-2-9566303-1-9, <https://secure.fera.defra.gov.uk/foodintegrity/index.cfm?sectionid=83>
13. The Concise Oxford Dictionary of Current English, Sixth Edition, ed. J. B. Sykes
14. https://ec.europa.eu/food/safety/food-fraud/what-does-it-mean_en
15. Regulation (EU) No 608/2013 of the European Parliament and of the Council of 12 June 2013 concerning customs enforcement of intellectual property rights and repealing Council Regulation (EC) No 1383/2003 https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32013R0608&qid=1611141775232#ntr14-L_2013181EN.01001501-E0014
16. https://ec.europa.eu/food/safety/food-fraud/what-does-it-mean_en
17. https://ec.europa.eu/food/safety/food-fraud/what-does-it-mean_en
18. CEN Workshop Agreement CWA 17369:2019, publisert januar 2019
19. https://ec.europa.eu/food/safety/food-fraud/what-does-it-mean_en
20. Regulation (EC) No 1924/2006 of the European Parliament and of the Council of 20 December 2006 on nutrition and health claims made on foods <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A02006R1924-20141213&qid=1611145595945>
21. The Concise Oxford Dictionary of Current English, Sixth Edition, ed. J. B. Sykes
22. Jean François Morin and Michèle Lees (Ed), FI Handbook on Food Authenticity Issues and Related Analytical Techniques, ISBN electronic version 978-2-9566303-1-9, <https://secure.fera.defra.gov.uk/foodintegrity/index.cfm?sectionid=83>
23. https://ec.europa.eu/info/strategy/food-safety_en
24. The Concise Oxford Dictionary of Current English, Sixth Edition, ed. J. B. Sykes, used to reference Regulation (EU) 2017/625 of the European Parliament and of the Council of 15 March 2017 on official controls and other official activities performed to ensure the application of food and feed law, rules on animal health and welfare, plant health and plant protection products, art 9(1)(b).
25. The Concise Oxford Dictionary of Current English, Sixth Edition, ed. J. B. Sykes, used to reference Regulation (EU) 2017/625 of the European Parliament and of the Council of 15 March 2017 on official controls and other official activities performed to ensure the application of food and feed law, rules on animal health and welfare, plant health and plant protection products, art 9(2).
26. https://ec.europa.eu/food/safety/food-fraud/what-does-it-mean_en

Analysis

In this chapter we have summarised the most important common topics. We have made an effort to use a common threat level based on the discussions in the individual national assessments. Since these assessments were conducted using slightly different techniques, it is not always easy to find a common denominator.

Raw materials, food of animal origin

Fraud relating to raw materials of animal origin varies from country to country. In Norway especially, fraud is associated with increased financial gain from the smuggling of meat and meat products, while in Denmark, for example, there is greater risk of fraud relating to the origin of the meat.

Facts: Food smuggling

The fact that there are different taxes in different countries influences the motivation for fraud or smuggling of different types of food.

Norway has special customs regulations relating to the importing of meat and other food of animal origin, which can motivate fraudsters to seek to profit from smuggling such products into the country.

When it comes to Denmark and Sweden, other foodstuffs may be influenced by the same motivation for fraud. This applies, for example, to alcohol and confectionery. These have not been addressed in this report.

Opportunities

Neither advanced means of transport nor advanced premises are required to commit fraud with food of animal origin. Equipment such as packing machinery, labelling equipment, knives and refrigerators, etc. are considered to be relatively easy to access and cheap to buy. There are great opportunities for technical solutions in sales, such as word of mouth, social media and other digital platforms. An in-depth level of knowledge is also not required to be able to commit animal fraud. There are no recognised analysis methods that can determine with certainty that an animal has been slaughtered unlawfully or that the meat originates from a different animal to the one stated. Similarly, analyses also cannot reveal whether the meat has been smuggled or even stolen.

Compared to previous cases, several different types of meat fraud have been

discovered in Norway, including unlawful importation, theft from destruction facilities, re-labelling of both origin and other labelling, camouflaging poor quality and "black market" sales and unlawful production. The delivery itself often takes place using vehicles, with meetings taking place in agreed car parks/meeting places. Such deals are probably conducted via private social media groups. Much of the unlawful importing that has been discovered in Norway comes in by road, using buses and couriers.

Home slaughter occurs in all of the countries and Denmark found that this type of fraud decreased considerably after the mobile unit focused on detection, destruction, recall, publication and fines for participants for a number of years.

High levels of unlawful importing of meat and meat products take place in several of the countries. Particular attention in recent times has focused on the African swine fever outbreaks and the unlawful sale of cheap meat and meat products from areas with active outbreaks. Not only does this involve food fraud and financial gain but it also poses a serious health risk to animals in the Nordic countries. Sweden and Norway are particularly vulnerable to vehicle and ferry traffic from Eastern European and Baltic countries and Norwegian taxes and prices represent further motivation for bringing products into the Norwegian market.

Motivation

When it comes to financial motives, the Nordic food authorities believe that there could be a financial incentive to substitute expensive meat with cheaper meat due to e.g. costs associated with customs, taxes, VAT or veterinary health checks, or to substitute using meat produced in another country where production costs are lower. Finally, it may also be the case that meat from one animal species is substituted with meat from another, cheaper species.

Among the types of fraud associated with expensive raw materials, fraud such as that seen during the international horsemeat scandal in 2013 is also discovered. There is still an incentive structure in place that encourages this type of fraud. Incentives for fraud are considered to include the fact that horses that cannot lawfully be used for food simply constitute a cost to the owner. If individuals can unlawfully bring the horses into the food chain, they thereby convert cost to profit.

With regard to the meat industry, small start-ups are usually financially vulnerable and farmers and small abattoirs face financial pressure. There is also high intensity of competition and a certain pressure from supermarket chains to supply large quantities as cheaply as possible.

Overall assessment

- Reputation: MODERATE TO HIGH
- Financial loss: MODERATE
- Food safety: MODERATE TO HIGH
- Consumer confidence: MODERATE



Illustration 4. From the methodology seminar, 2018. Mie Nørgaard, 2018

Case studies on raw materials of animal origin

CASE 1: ILLEGAL ABATTOIR

One national food administration received tips from the general public that an individual was allegedly selling "home slaughtered" pork before Christmas. The supervisory authority's inspection found premises that had been fitted out as an abattoir with basins for scalding pigs, band saws and several refrigerators. The equipment was industrial and indicated that the operation was on a large scale. The premises contained slaughter residues and around twenty hams in addition to pork. The premises were very unhygienic and the surfaces were covered in a greasy film of blood, cats were also observed eating offal inside the space. Extensive documentation was also found at the premises, showing that financial transactions relating to meat had taken place. The owner of the premises admitted guilt and explained that he had been caught doing exactly the same a few years ago. The supervisory body made a decision to prohibit further operations, to destroy the existing products and to file a police report.

CASE 2: MEAT SALES AT CAR DEALERSHIP

A used car dealership was inspected after a notification of concern had been received. The inspection was carried out with assistance from and in collaboration with the police, the customs service and the labour inspection authority. Upon arrival, the person responsible for the business was found hiding inside a portacabin next to three vans. Empty packaging from Swedish shops that had been removed from the meat products was found outside and inside the vehicles. Empty packaging from chicken fillets originating from Brazil, cattle/beef originating from the Netherlands and Ireland and lamb originating from New Zealand were all found. Four freezers were found hidden behind stacks of car tyres, plastic tarpaulins and car mats. Two of these freezers were full of meat, which was linked to the empty packaging found outside and inside the van. A total of 230 kg of meat (cattle, chicken and lamb) was found and seized by the customs service due to violations of the Customs Act. Several stick-on labels belonging to the meat shop were found inside the portacabin and meat scales were found in the boot of a passenger car. During an inspection of the meat shop, the same type of stick-on labels with the same ID number as those found at the car dealership were found. The matter was reported to the police but was dismissed when the person in charge of the car dealership and the meat shop was deported from Norway due to being illegally resident.

Complicated trade routes, fish and seafood

In 2018, the UN Food and Agriculture Organisation (FAO) published the report: Overview of food fraud in the fisheries sector²⁷. The report claims that the fisheries and aquaculture sectors are recognised as being among the most vulnerable sectors in relation to food fraud. The report also references the fact that e.g. an inspection conducted in 2015 by Europol and Interpol found that fish traded internationally was the third highest risk category of foods with the potential for fraud. The report stresses the fact that the fight against food fraud in the fisheries sector is complex. It requires extensive collaboration between all parties and countries and the development of good analysis methods for e.g. authenticity in order to manage the phenomenon.

Opportunities

Some of the most common forms of fish fraud are species substitution, labelling related to geographical origin, labelling fraud, undeclared additives, illegal additives to increase weight, forgery of documents and the use of fictitious businesses and identities.

Fish fraud is hard to detect. It is not easy to detect substitutions when the tail, head and fins have been removed from the product and resold as fillets and in ready meals. The EU has reported species substitution fraud related to whitefish, particularly after the processing phase.

When it comes to technical possibilities, Nordic food authorities consider fish fraud to be easy to carry out. Both the technology and the knowledge are easily accessible and no extensive planning or expertise are required. The analysis possibilities are also limited. Nevertheless, it is possible to test for DNA, certain additives and which waters the fish was caught in.

When it comes to opportunities of time and space, it is considered easy to access other raw materials that can be processed or changed into other products. However, additive fraud requires more knowledge and equipment. The fisheries industry is characterised by having many participants and levels but also overlap in ownership.

However, a technical limitation on fraud in this type of foodstuff is the fact that it spoils easily when fresh and must therefore be handled, processed and transported within a relatively short period of time.

With regard to previous cases, several types of fish fraud have been seen in the Nordic countries.

27. FAO OVERVIEW OF FOOD FRAUD IN THE FISHERIES SECTOR: <http://www.fao.org/documents/card/en/c/18791en>

Motivation

Both availability and price provide financial incentives for fish fraud. Fish also has value-adding elements by virtue of being part of official dietary guidelines and some fish is also labelled as sustainable (MSC). The problems associated with dioxins in the Baltic Sea may also encourage fish origin fraud. Another factor that influences the financial incentive for fraud is the different customs rates, which vary depending on fish species. Both the preparatory processes and the pay differences between the countries may also influence motivation to cheat when it comes to origin or place of production.

When it comes to the financial situation of the industry, the assessment is that the largest companies rarely experience pressure, while medium-sized businesses experience moderate pressure, which may lead to fraud. Fraud might even be considered a necessity for the survival of businesses experiencing pressure. There is high intensity of competition in the market and suppliers experience pressure from customers (B2B). These factors may lead to a high risk of companies being pressurised into committing food fraud, as failure to deliver would have financial consequences.

When it comes to cultural and behavioural motivation, the Nordic region is generally considered to have a tradition of recreational fishing. This contributes to the perception that it is a human right to be able to catch fish and sell it on. This can lead to the population keeping an eye on unlawful fishing and, to some extent, also contribute to it by buying fish through unregistered channels.

Business strategies are also considered to be characterised by the fact that the industry is vulnerable to quotas and changes to quotas. This leads to a lack of stability and doubts as to whether there will be any fish to catch tomorrow.

Overall, the industry is considered to be vulnerable and this may incite fraud with the aim of strengthening the competitiveness of the company.

Overall assessment

The threats described above have been assessed based on probability and consequence. The overall risk for the following parameters is therefore:

- Reputation: MODERATE TO HIGH
- Financial loss: HIGH
- Food safety: LOW TO MODERATE
- Consumer confidence: HIGH



Illustration 5. From the methodology seminar, 2018. Mie Nørgaard, 2018

Case studies for fish and seafood

CASE 3: STOLEN STOCKFISH TO NIGERIA

One operation uncovered highly unhygienic handling and storage of stockfish. Findings included rodent damage, rat carcasses and vermin excrement among the goods. A decision to close down operations, impose a ban on sales and to destroy the fish was made. A preliminary police report was submitted for the three businesses involved in the logistics and export relating to this case. Before the goods were destroyed, the sealed bags of fish were unlawfully removed from the vehicles they were found in. The goods were reported missing through European notification systems, such as RASFF and were later discovered in Germany by the German customs service. Pictures were submitted from Germany and confirmed that these were the same goods that had been stolen and that were intended for destruction.

CASE 4: FALSE ANALYSIS CERTIFICATES

One fish factory was exposed in an extensive fraud case relating to analysis certificates for salmon. The company had produced forged analysis certificates showing that the salmon were free from listeria bacteria even though in reality the opposite was true. A number of inspections led to a total of nine cases being reported to the police in connection with e.g. lack of traceability and the use of authorisation numbers assigned to a different company. The case led to the company going bankrupt.

CASE 5: ORGANISED SALE OF UNLAWFULLY CAUGHT FISH

This case relates to the large-scale organised sale of at least 100 kg of pike, one tonne of pikeperch and large volumes of signal crayfish that had been caught at night in lakes in Sweden. Through multiple inspections at the unregistered food company, the local supervisory authorities discovered that fresh fish and crayfish were being sold at large fish auctions. The company was indicted and out of the nine individuals involved, one was sentenced to imprisonment and a demand for the repayment of SEK 400,000.

CASE 6: SALE OF TUNA WITH ILLEGAL ADDITIVES

There have been several fraud cases relating to the dyeing of tuna in the EU. Tuna is coloured red using additives such as nitrites, antioxidants and carbon monoxide. This makes the tuna look healthier, which may conceal the fact that the tuna is too old or of poor quality. By dyeing tuna red, it is also possible to obscure which species of tuna it is. It has been shown that naturally brown tuna has been coloured red using nitrites, which leaves consumers with the impression that they are getting better quality than they are paying for. In addition to tricking consumers, there is also a risk that consumers may become unwell from eating the tuna, for example if histamine develops, as histamine may be formed from prolonged storage at excessive temperatures. As previously seen in the EU, the results of the inspection campaign confirm that antioxidants are used in way too large quantities of tuna compared to the justified technological need. Such cases have been detected in both Denmark and Norway.

CASE 7: FICTITIOUS WEBSITES SELLING NORWEGIAN SEAFOOD

There have been several instances in which Norway has discovered attempts at online fraud relating to Norwegian seafood as a brand. The websites claim to be Norwegian seafood producers and offer goods at highly favourable prices. They provide documentation that includes copied websites from real producers and stolen identities of individuals working in Norwegian seafood production, as well as falsified health certificates and customs documents. They request partial payment in advance to an identified bank account before the goods are shipped and the "seller" subsequently vanishes and no goods are supplied. This is advanced financial crime that is difficult to investigate since both the websites and the bank accounts are quickly closed and new ones established.

Nordic origin

Opportunities

With regard to technical possibilities, the Nordic food authorities consider fraud relating to the origin of foodstuffs to be relatively uncomplicated to carry out. Both the technology and the knowledge are available and the opportunities for analysis are also limited.

Origin fraud can be carried out easily as it is easy to obtain the necessary equipment. Examples of equipment that may be necessary and that is easy to buy include printers, scanners, software, paper and other tools for conveying information. The equipment required for this type of fraud is largely already in place in established businesses.

When it comes to opportunities of time and space, access to foreign raw materials that can later be marketed as being of Swedish or Danish origin is considered to be easy. We assume that the same will also apply to Norwegian and Icelandic origin, even though no national examinations have been carried out for these countries.

Motivation

The dominant motive for fraud may be a discrepancy between supply and demand. In particular, sales contracts with specific requirements concerning delivery volumes may encourage suppliers to look for alternatives from other countries.

Products that are labelled as originating in a Nordic nation are normally considered to have special product characteristics. This can increase the motivation to commit fraud as it adds value to the product, which may lead to higher profits.

Counterfeiting origin labelling and the sale of foreign foodstuffs under the guise of being Nordic are considered to have the possibility of generating large financial profits and increased market advantages for those who commit such acts. It also increases the chance of winning public tenders and competitions against other market participants.

Other factors that may contribute to added value for Danish, Icelandic, Norwegian and Swedish products are values such as local production, sustainable production, trust in the authorities, high quality, high levels of animal welfare and lower antibiotic consumption.

Overall assessment

The threats described above have been assessed based on probability and consequence. The overall risk for the following parameters is therefore:

- Reputation: MODERATE TO HIGH
- Financial loss: MODERATE
- Food safety: LOW
- Consumer confidence: MODERATE TO HIGH

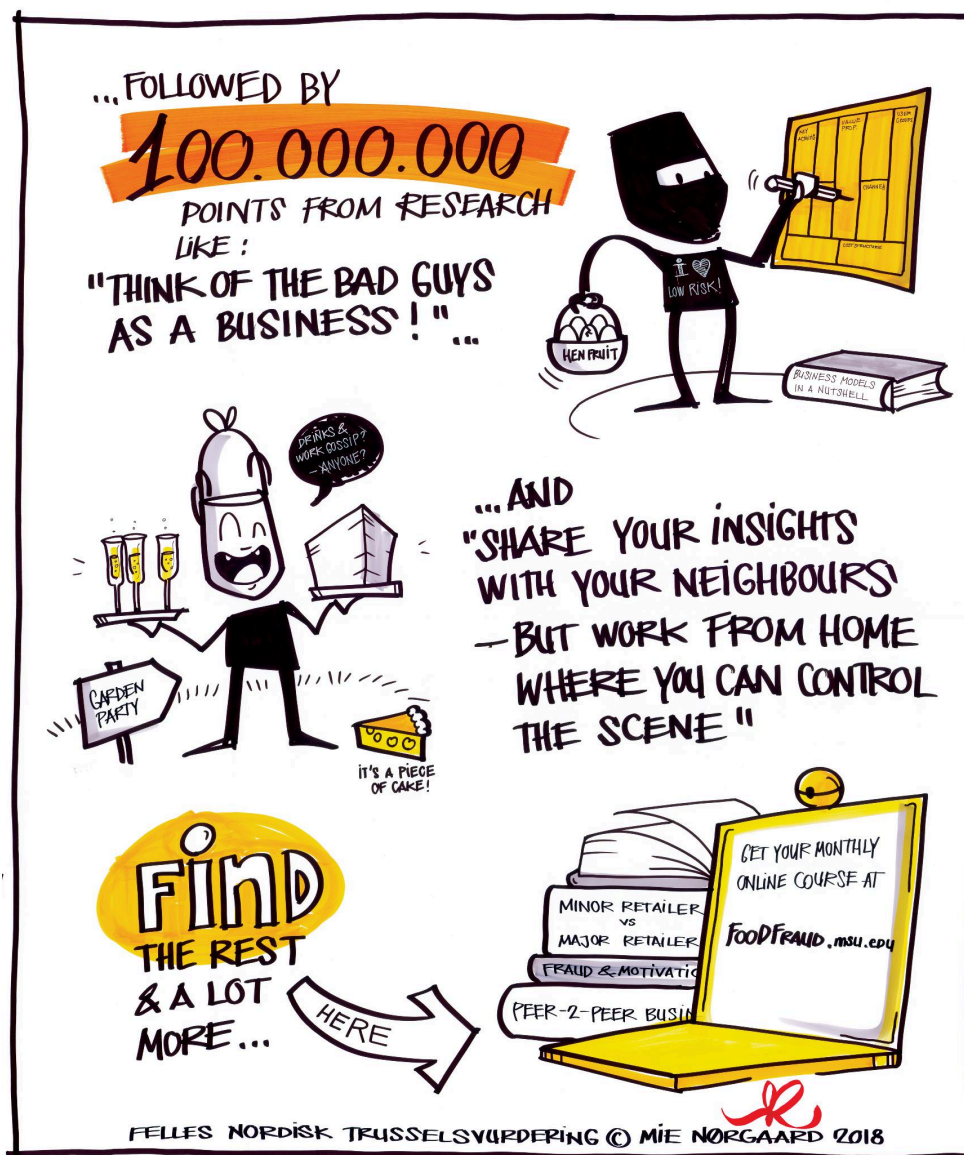


Illustration 6. From the methodology seminar, 2018. Mie Nørgaard, 2018

Case studies on Nordic origin

CASE 8: BUTCHER'S BUSINESS SOLD FOREIGN MEAT AS SWEDISH

Several tips put the Swedish Food Authorities on the trail of a company that sold meat to other food companies at extremely low prices. The authorities carried out an inspection that uncovered serious shortcomings in the company's traceability system, as well as inadequate documentation of salmonella guarantees for foreign meat. The company was issued with two sanctions, for lack of traceability and inadequate salmonella guarantees.

CASE 9: BRAZILIAN BEEF SOLD AS DANISH

A number of consumers who had complained after being served Danish beef on New Year's Eve later came to realise that they had been eating beef from the other side of the globe. During an inspection visit to a meat company, the authorities found that at least 686 kilograms of the meat eaten as part of the New Year's menu came from Brazil. The company was fined a total of DKK 45,000. The inspection took place on the basis of an anonymous tip.

CASE 10: FORGERY OF CERTIFICATES OF ORIGIN

334 tonnes of Canadian prawns caught outside of the EU/EEA were processed in Iceland and labelled as originating in Iceland for resale within the EU/EEA, with lower customs duties and taxes. A profit of ISK 54 million was estimated. The case was dismissed as a result of procedural errors.

CASE 11: FORGERY OF ICELANDIC SALMON CERTIFICATES

A few years ago, the importing of salmon to Russia from EU and EFTA states was banned, with the exception of salmon from Iceland. Counterfeit certificates for salmon products from Icelandic fish companies started appearing at the Russian border. The Russian authorities contacted the Icelandic authorities and submitted copies of a number of certificates, after which they were informed that the certificates were forged. The affected companies have also confirmed that they do not produce salmon or export salmon to Russia. It is still unclear which country or producer these products originate from and the Icelandic authorities will continue collaborating with the Russian authorities to obtain further information.

Organic products

Globally, there is a significant increase in land used for the production of organic products. At the same time, it is reported that, for certain products, the volume of declared organic products on sale far exceeds what could be produced on the registered land. Moreover, there has for some time been a focus from the European Commission and Europol on uncovering organised fraud in organic production and organic products. The European Commission is also involved in OPSON, a unified Europol/Interpol collaboration aimed at global food and beverage fraud.

One of the priority areas of Operation OPSON 2019 was to uncover organic food fraud. A total of 120 administrative examinations and 10 judicial investigations were conducted. A total of 16,000 tonnes of products were downgraded to conventional food and nine companies lost their registration/authorisation. Three of the cases involved dangerous food, which led to RASFF notifications. Finally, two private supervisory bodies lost their license to conduct organic inspections.

Facts: The term "organic" is a protected trade name in agricultural and food production. 'Organic' or associated abbreviations, etc, may be used only in the marketing of agricultural products when this takes place in accordance with the rules on organic products. Foodstuffs that are marketed as organic or for which information otherwise leads the buyer to believe that the product was produced according to the organic production method must be produced in accordance with the rules on organic products by a primary business or food company that is subject to organic supervision. In most countries, the supervision of organic food production is split between the public authorities and private supervisory bodies. In Denmark, all supervision is carried out by the authorities.

Facts: All batches of organic agricultural products and foodstuffs from countries outside of the EEA must be inspected upon import. Common to both products of animal origin and organic vegetable products is the fact that a Certificate of Inspection (COI) is required in addition to other documentation. This certificate must be processed using an electronic notification system (TRACES NT).

Opportunities

With regard to technical possibilities, the Nordic food authorities consider it to be easy to carry out fraud relating to organic foodstuffs. Just as with origin labelling, the tools needed to convey information are easy to obtain. No in-depth specialist knowledge is required to commit this type of food fraud either. The counterfeiting of traceability documents and certificates from supervisory bodies for organic production is considered easy. The analysis possibilities are also limited.

With regard to opportunities of time and space, the authorities find that it is easy to access conventional raw materials that can be presented as organic. The structure of the supply chain is complex, both geographically and in terms of the number of participants in the chain, and there are many opportunities to identify weak points at which fraudsters can take action.

Increased levels of organic product fraud are being reported in international trade. There is reason to believe that fraud predominantly relates to conventional products that are relabelled and that are therefore not subject to annual physical organic inspections by the inspection body. The European Commission has also identified shortcomings associated with the supervisory bodies in some third countries.

Motivation

The large price difference between conventional and organic food may encourage fraud. Additionally, a request from the customer companies for scheduled deliveries may motivate individual supplier to commit organic fraud in order to retain customers. The support schemes available for organic production also contribute further to the financial motivation to present the business deceptively.

Organic products also appear to add extra value for customers, by contributing to sustainability and even higher animal welfare. Consumers often buy organic goods based on an ideology of looking after their health, the environment, the climate and a sustainable society.

At the same time, this type of fraud is not considered to have any consequences other than misleading consumers. This contributes to the fact that organic food fraud may be viewed as less problematic than other types of fraud that can, for example, lead to ill health on the part of consumers.

Overall assessment

- Reputation: HIGH
- Financial loss: HIGH
- Food safety: LOW
- Consumer confidence: MODERATE TO HIGH

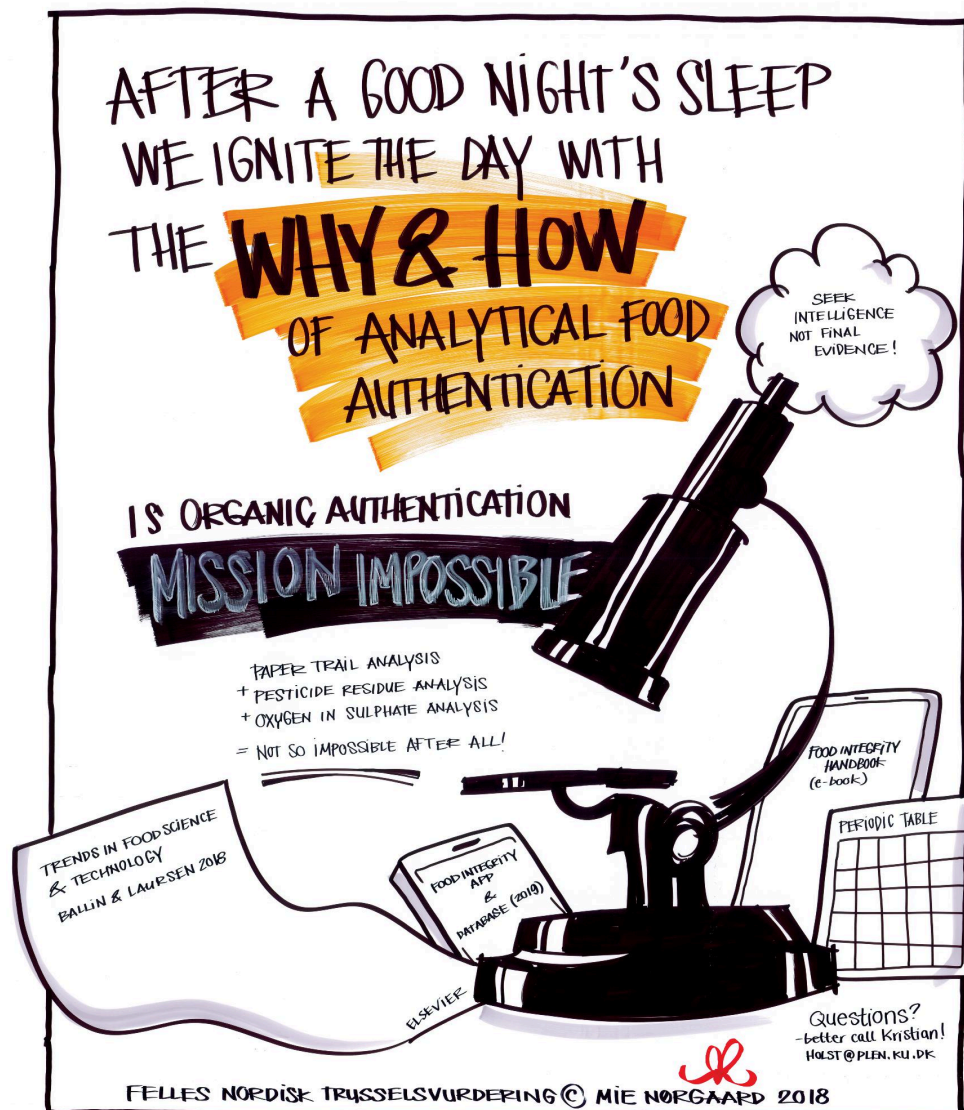


Illustration 7. From the methodology seminar, 2018. Mie Nørgaard, 2018

Case studies on organic products

CASE 12: EU COMMISSION DEPRIVES PRIVATE SUPERVISORY BODIES OF THEIR LICENSE TO ISSUE ORGANIC CERTIFICATIONS

After a series of investigations conducted by the European Commission, an international certification body was deprived of its license to issue organic certificates in April 2019.

The company, Control Union Certifications (CUC), which is one of the largest international private supervisory bodies, thereby lost its license in Russia, Turkey, Kazakhstan, Moldova and the United Arab Emirates. The background to the license deprivation was a number of investigations that uncovered that the company's inspections and certifications were carried out so carelessly that potential environmental fraudsters had free rein. The company was unable to document where, when or how inspections of producers were carried out. At the same time, the company had issued a certificate for a batch of organic foodstuffs that, following a pesticide analysis, were later downgraded to conventional food.

CASE 13: ORGANISED SALE OF CONVENTIONAL FRUIT AS ORGANIC FRUIT

The Swedish authorities uncovered that one company had systematically supplied organic fruit baskets containing conventional fruit to a number of large customers, including government agencies. The company had won a public tender as it was able to offer organic food at low prices. By sampling the fruit for pesticide analysis, the Swedish authorities discovered that more than half of the fruit was not organic. The company also had several branches that were not registered as food companies. The company was banned from selling organic food and the fraud was reported to the police. The company was fined SEK 85,000.

Conclusion and future perspectives

The results obtained by the Nordic countries using the model provide an understanding of the extent of the threats that are being examined. There are many factors that may contribute to the motivation and opportunity to commit fraud. Nevertheless, the conditions in the different countries are slightly different and this means that the picture also varies internally in the Nordic market. We can see that, in areas where profits can be gained from fraud, there will be parties who are willing to commit fraud. Where it is easy to substitute expensive products with cheap products, more activity will be detected. As the supervisory authorities crack down on certain types of fraud, activities will move to new areas.

No pan-Nordic meetings were convened during the project for the purpose of comparing results along the way. It would be interesting to bring together inspectors and industry players across the Nordic markets to discuss what they consider the overall biggest threats to be.

The range of topics that were examined in this instance is limited and based on the assumption that these are some of the greatest challenges in the Nordic region. We all consider this project to be a first step and recommend conducting such national threat assessments routinely to ensure that new threats are included and to ensure the best possible risk base for supervisory activities. The model is useful for gathering knowledge and information about the status in the market and to help prioritise supervisory activities.

The project has also held topical meetings during annual supervisory conferences organised by NMR. If the Nordic supervisory conferences are not continued, we recommend creating a forum that will meet annually to exchange knowledge and experiences, similar to the Nordic (and Baltic) emergency preparedness collaboration.

The project group believes that drawing up threat assessments for food fraud in the Nordic countries has helped elevate the efforts to combat fraud to a more strategic level. Likewise, future threat assessments that are drawn up will also contribute to food fraud being looked at from a broader perspective.



Illustration 8. From the methodology seminar. Mie Nørgaard, 2018

Appendix 1

Nordic methodology seminar, December 2018 (a short summary)

A two-day seminar was held in Glostrup, Denmark as an introduction to the Nordic project, Food Fraud, A Joint Nordic Threat Assessment. Participants at the seminar came from the Nordic countries, as well as from the United Kingdom and USA. Both official authorities and academia were represented. The main themes were threat assessments in general and knowledge of Food Fraud.

The seminar moderator was Technical Director **Keren Bar-Yaacov**, from The Norwegian Food Safety Authority.

Speakers and program:

Keren Bar-Yaacov, Norwegian Food Safety Authority, Norway:

"Words for Thought"

Summary: The Nordic countries taking part in the project all base their activity on the European Commission operative definition of Food Fraud. There are many ways to manipulate food, and many terms for these manipulations. These terms have all been translated into the Nordic languages with small nuances. These nuances may contribute to some confusion when communicating across the Nordic region. It is therefore deemed useful for the project to develop a common glossary of terms across the different languages.

Jörgen Kruhl Jensen, Danish Veterinary and Food Administration, Denmark:

"Tackling Food Fraud in a Danish perspective"

Summary: A description of how Denmark has organised its control activities to tackle Food Fraud, and their experiences. Challenges of the legal framework, priorities of hygiene vs fraud, alternative competence needed for controls, and national and international cooperation.

Andy Morling, Food Standards Agency, Food Crime Unit, United Kingdom:

Day 1: *"Assessing food crime risk in three steps"*

Day 2: *"The National Food Crime Unit"*

Summary: Day 1: Understanding the drivers of Food Fraud and the approach to risk assessment performance and communication. What are the societal and economic consequences and looking at vulnerabilities.

Day 2: The United Kingdom approach to assessing serious food crime risks, and leading and coordinating the controls. Following the wheel *"Prepare-Protect-Prevent-Pursue"*

Lorna Trimnell, Food Standards Agency, Food Crime Unit, United Kingdom:

"How to produce a strategic assessment on Food Crime"

Summary: A description of how the United Kingdom has worked to produce a strategic threat assessment on Food Crime. What to consider, where are your sources and what can go wrong. Analysis of very different data sources and sets and knowing the confidence level. Be systematic and open as to how you collect your data.

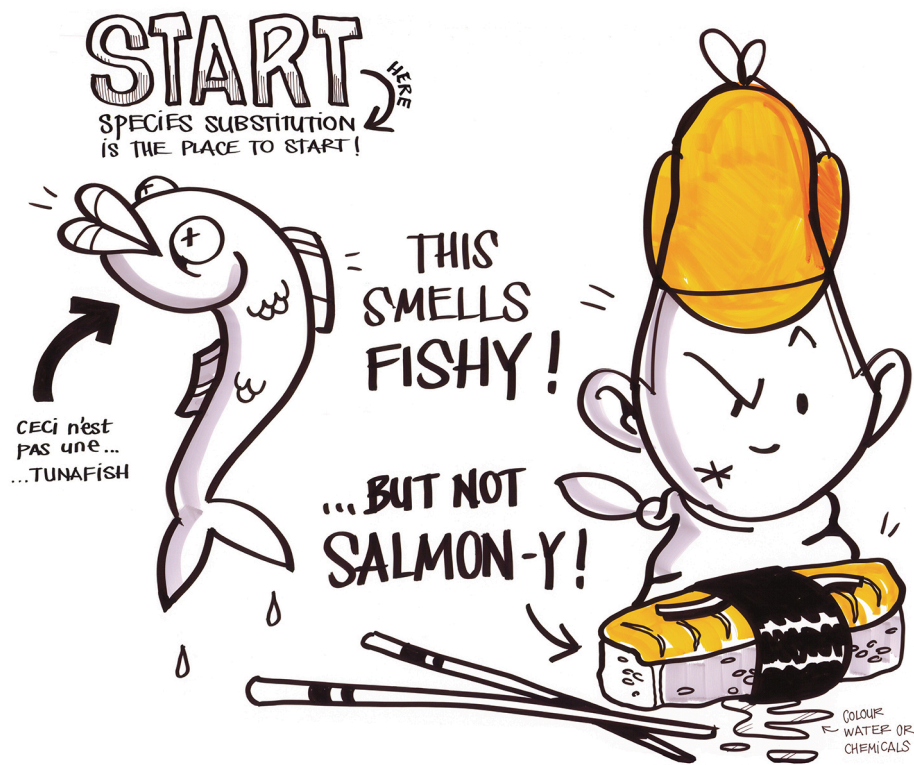
John Spink, Michigan State University, USA:

Day 1: *"Food Fraud Vulnerability Assessment and Prevention Strategy"*

Day 2: *"Food Fraud Prevention Best Practices and Implementation"*

Summary: Day 1: Strategy for Food fraud prevention. What can you do in the allocated timeframe. Seven steps to implement a prevention strategy. Looking at economic drivers and risk for Food Fraud.

Day 2: Tactical versus strategic focus. Looking at the motivational factors and factors that weaken the control system. Include the whole production chain and have an interdisciplinary approach. *"Detect-Deter-Prevent"*.



Johanna Skinnari, The Swedish National Council for Crime Prevention (BRÅ), Sweden:

"Do fraudsters adjust to measures taken by authorities? How? Examples from research"

Summary: Typology of fraudsters and the drivers to commit fraud. Finding key factors to prevent crime. Raise awareness about Food Fraud among all involved in production and in controls. Do not downgrade the common crime challenges just because it is about food. Cooperation between authorities is important. Learn from each other and use research to build practical solutions.

Kristian Holst Laursen, University of Copenhagen, Denmark:

"Food Fraud & analytical authentication"

Summary: What is food integrity? Challenges to authenticate food include lack of accredited analytical methods, lack of harmonized definitions, and non-harmonised methods and procedures. The analytical toolbox for food authentication needs to be broad based.

Jónas R. Viðarsson, Mátis, Iceland:

"Fishery and seafood fraud"

Summary: Food fraud in the fishery sector. Species substitution, avoiding quotas and fishery restrictions, false labelling and false certification are all globally recognised challenges of the seafood market.

Monica Værholm, National Authority for Investigation and Prosecution of Economic and Environmental Crime (Økokrim), Norway:

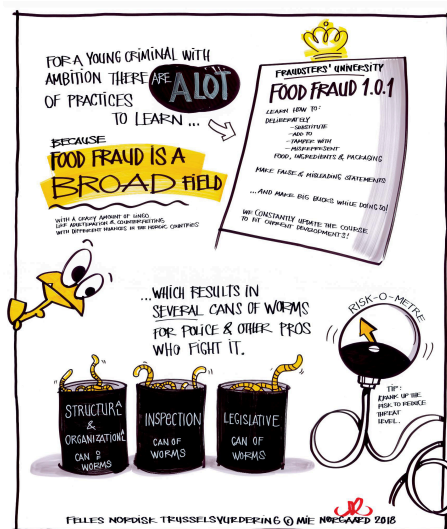
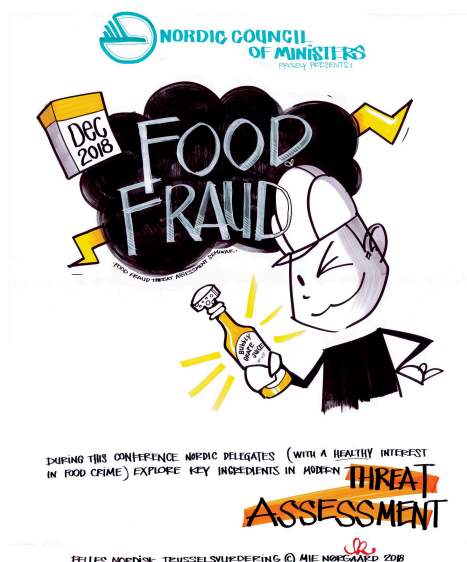
"Methodology and use of threat assessment"

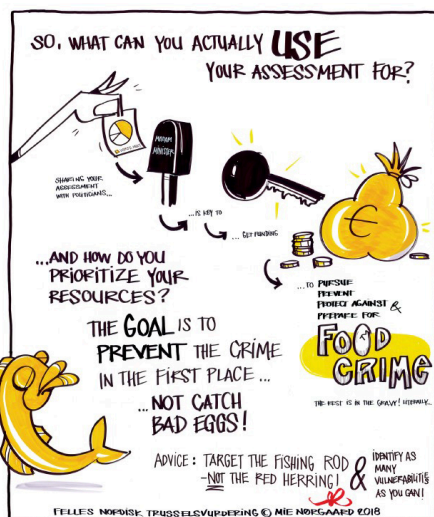
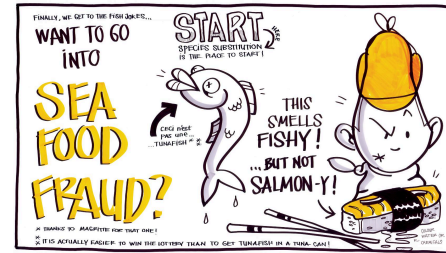
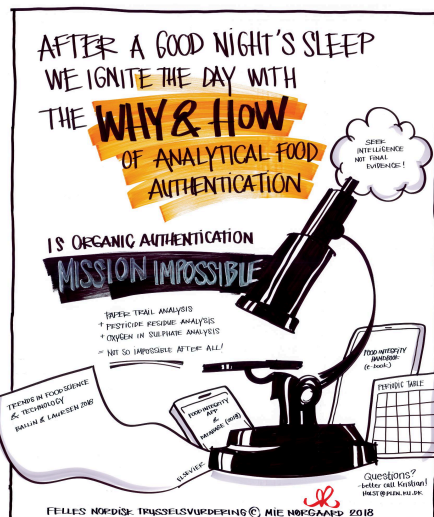
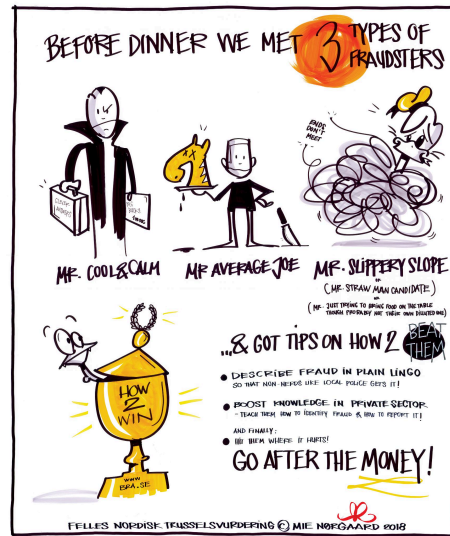
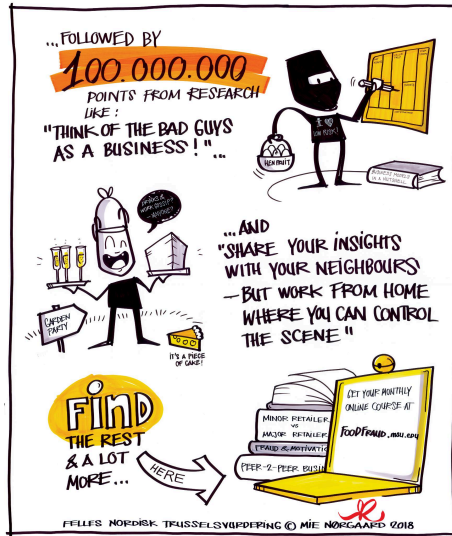
Summary: How Økokrim works on threat assessments. Collecting information through investigations and internal and external sources. Important to decide what the threat assessment is for; general information, taking operational decisions, considering vulnerabilities, or other external prevention factors. Important to define what level you are targeting – strategic, tactical, or operational.

Appendix 2

Nordic methodology seminar December 2018 (an illustrated summary)

To illustrate and summarise the presentations and discussions at the seminar, illustrator and Art Director Mie Nørgaard from Denmark was hired in for the project. She produced a series of illustrations during the seminar. The resulting summary has been very useful for the project and is much appreciated.





Appendix 3

The national threat assessments (in original Nordic languages) and an English summary of the Icelandic national seminar.

Dansk bidrag til nordisk trusselvurderi

Hotvärdering livsmedelsbedrägerier,
bidrag från Sverige

Trusselvurdering i den norske
matkjeden 2019

Minutes from the Food fraud seminari
24. September 2019 in Island



Appendix 4

Reference list

Presentations at the 2018 seminar

Spinks, J., Michigan State University, USA, Food Fraud Vulnerability Assessment and Prevention Strategy, Seminar, København, desember 2018

Spinks, J., Michigan State University, USA, Food Fraud Prevention Best Practices and Implementation, Seminar, København, desember 2018

Trimnell, L., Food Standards Agency, UK, A Recipe for a Strategic Assessment, Seminar, København, desember 2018

Articles

Silvis, I.C.J., van Ruth, S.M., van der Fels-Klerx, H.J. & Luning, P.A. (2017). Assessment of food fraud vulnerability in the spices chain: An explorative study. Food Control, 81, 80–87. <https://doi.org/10.1016/j.foodcont.2017.05.019>

Teuber, R. (2019). Review of socioeconomic tools and models for preventing, detecting, and mitigating food fraud. Department of Food and Resource Economics, University of Copenhagen. IFRO Report, No. 278

van Ruth, S.M., Huisman, W. & Luning, P.A. (2017). Food fraud vulnerability and its key factors. Trends in Food Science & Technology, 67, 70–75. <http://doi.org/10.1016/j.tifs.2017.06.017>

van Ruth, S.M., Luning, P.A., Silvis, I.C.J., Yang, Y. & Huisman, W. (2018). Differences in fraud vulnerability in various food supply chains and their tiers. Food Control, 84, 375–381. <http://doi.org/10.1016/j.foodcont.2017.08.020>

Publications

Anon, CEN Workshop Agreement CWA 17369:2019 publisert januar 2019

Anon, The Concise Oxford Dictionary of Current English, Sixth Edition, ed. J. B. Sykes

Anon, FAO OVERVIEW OF FOOD FRAUD IN THE FISHERIES SECTOR:
<http://www.fao.org/documents/card/en/c/l8791EN>

Morin, J.F. & Lees, M (Ed), FI Handbook on Food Authenticity Issues and Related Analytical Techniques, ISBN electronic version 978-2-9566303-1-9,
<https://secure.fera.defra.gov.uk/foodintegrity/index.cfm?sectionid=83>

Legal texts

Regulation (EC) No 178/2002 of the European Parliament and of the Council of 28 January 2002 laying down the general principles and requirements of food law, establishing the European Food Safety Authority and laying down procedures in matters of food safety (Food Law) <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A02002R0178-20190726&qid=1611134440348>

Regulation (EU) No 608/2013 of the European Parliament and of the Council of 12 June 2013 concerning customs enforcement of intellectual property rights and repealing Council Regulation (EC) No 1383/2003 <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32013R0608&qid=1611175079178>

Regulation (EC) No 1924/2006 of the European Parliament and of the Council of 20 December 2006 on nutrition and health claims made on foods <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A02006R1924-20141213&qid=1611145595945>

Commission Implementing Regulation (EU) 2019/1715 of 30 September 2019 laying down rules for the functioning of the information management system for official controls and its system components (the IMSOC Regulation) <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32019R1715&qid=1611134037247>

Other, websites

https://ec.europa.eu/food/safety/food-fraud/what-does-it-mean_en

https://ec.europa.eu/info/strategy/food-safety_en

Appendix 5

Participants in the working group

Norway

Keren Bar-Yaacov, Norwegian Food Safety Authority (project manager)

Ida Siri Berntsen Svinddal, Norwegian Food Safety Authority

Anne Elisabeth Kørner Bueso, Norwegian Food Safety Authority (proofreading og publication)

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Louise Andreasen, Danish Veterinary and Food Administration

Anette Løvenkjær-Pearson, Danish Veterinary and Food Administration

Jørgen Kruhl Jensen, Danish Veterinary and Food Administration

Iceland

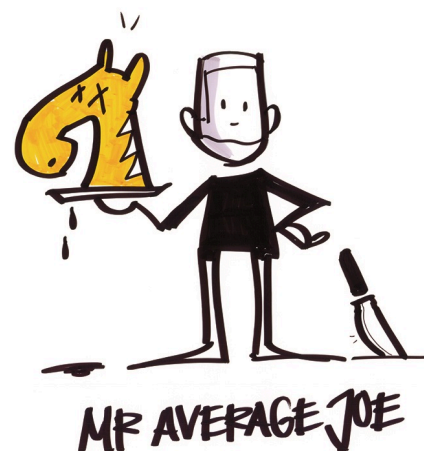
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About this publication

Food Fraud

a Joint Nordic Threat Assessment

Report written by a joint Nordic working group with representatives from Denmark, Iceland, Norway and Sweden.

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ISBN 978-92-893-7371-5 (PDF)

ISBN 978-92-893-7372-2 (ONLINE)

<http://dx.doi.org/10.6027/temanord2022-546>

TemaNord 2022:546

ISSN 0908-6692

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Illustrations: Mie Nørgaard, 2018

Published: 9/11/2022

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