Deliverable Report

KAVA	
KAVA Name	Citizen Science to build consumer trust in the food system
KAVA Reference	20197
KAVA start date:	01/01/2020
Deliverable	
Title:	Report on food integrity in Europe
Deliverable No.:	05
Type of Deliverable	R: report
Authors:	Felix Amarita, Miguel Romeo, William Crowe
Level of completion (0 – 100)	100% = fully achieved
Delivery date (due):	20/12/2020
Due deliverable (actual):	22/12/2020
Dissemination level	PU = Public, fully open access

EIT Food – Making Food Innovation Happen

Knowledge & Innovation Community on Food - http://www.eitfood.eu

This EIT Food activity has received funding from the European Institute of Innovation and Technology (EIT), a body of the European Union, under Horizon2020, the EU Framework Programme for Research and Innovation.

EIT Food is Europe's leading agri-food innovation initiative, with the aim to create a sustainable and future-proof food sector. The initiative is made up of a consortium of key industry players, start-ups, research centres and universities from across Europe. EIT Food aims to collaborate closely with consumers to develop new knowledge and technology-based products and services that will ultimately deliver a healthier and more sustainable lifestyle for all European citizens.

CONTENTS

1. Executive Summary

This report will show the main results obtained from data provided in the initiative around food integrity topics. Data in support of food integrity challenges could enhance the understanding of the impact and prevalence of these problems in the food sector.

This activity addressed concerns regarding food integrity which includes food authenticity (identity) and safety issues (chemical and biological risks), that are relevant to build consumer trust.

Many societal concerns have been detected, being food fraud and listeria some of them. These will be the pillars to design the scientific challenges to be developed within the project.

Why Listeria monocytogenes. Listeria monocytogenes can grow in a wide range of environmental conditions, giving this microorganism a great ability to thrive in multiple environments. This pathogen is the causative agent of listeriosis. Although listeriosis is an infrequent disease, its high mortality rate makes it one of the diseases with the highest incidence on Public Health. The number of confirmed cases of listeriosis has undergone a statistically significant increase in the European Union in the last decade. Spain is included in this trend; it has also seen an increase in listeriosis outbreaks. It is the second European country with the highest number of cases, after Germany.

Why Basmati rice fraud? Basmati rice is a perfumed rice of high commercial value which is easily adulterated. There is a list of rice varieties accepted as true Basmati and mixtures of authentic Basmati and non-Basmati varieties can be quantified.

2. Listeria and food fraud in Europe

Incidence of *Listeria monocytogenes* in Europe

Listeria monocytogenes is one of the most concerning foodborne pathogens. Due to its metabolic characteristics, *Listeria* spp. can be present in several foods: those under modified atmospheres, in salty products, in low temperature storage food. Every year listeria has its impact on the statistics of the European Union, there are always cases, and some of them have some media impact. During 2019, there was an outbreak of listeriosis in Spain of some concern linked to the presence of listeria in a type of meat product.

In the European Union, every day a huge volume of business takes place, and therefore, in a dynamic context in which control and assurance of food quality and safety prevail, it is usual to observe a certain incidence of cases that do not fit the Standard. The European Union has implemented the Rapid Alert System for Food and Feed (RASFF), that is a tool created for sharing information between food safety authorities, Commission, EFSA, ESA, Norway, Liechtenstein, Iceland, and Switzerland. RASFF is a driver tool for sharing information in a fast way, that enables the rapid reaction of authorities and the flow of this information between stakeholders, citizens included. The information that is kept in RASFF is as transparent as possible for all stakeholders, considering the balance between the free access and the due protection of information that could derive in a potential and non-balanced economic damage.

In this context we have accessed the information available in RASFF

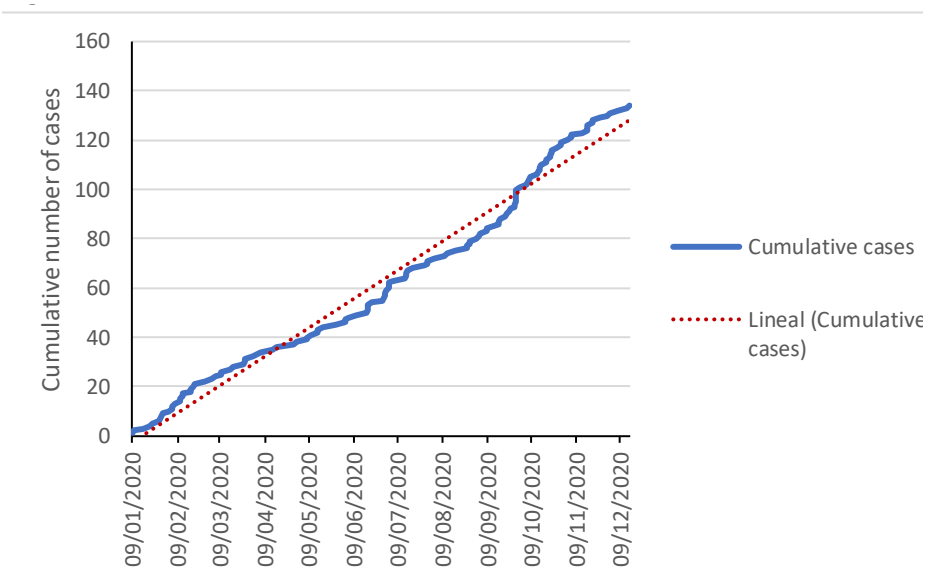

Figure 1. Reported cases of food safety related issues (taken from https://webgate.ec.europa.eu/rasff-window/portal/?event=SearchForm&cleanSearch=1).

During the period between January 1, 2020 and December seventeenth, 3,548 notifications have been received. Of these, 258 were related to the detection of problems of microbiological nature, and of these, 134 were caused by *Listeria monocytogenes*. That means that 3.7% of all issues were microbiological related, but almost 52% of these problems were listeria-related. It has been observed that notifications (cumulative values) have been set during the year in an almost linear-shaped way (figure 1), ($y = 0{,}3826x - 16776$; $R^2 = 0{,}979$). It can be observed that during autumn/winter, cumulative cases remained above average, being below average during spring/summer.

Table 1. Foodborne notification issues declared on year 2020.

notification basis	Percentage (%)
company's own check	68,66
official control on the market	29,10
food poisoning	1,49
border control - consignment released	0,75

Regarding the origin of notification of the foodborne problem, almost two thirds of the cases were reported by manufacturers, and the remaining third by public administrations (table 1). The European legislation in force establishes the obligation that food producing companies take responsibility for ensuring the safety of the food they produce. The high number of alerts that have been detected by producers is a clear indication that the European food sector is aware of its obligations towards citizens and that they are actively working to ensure the quality and safety of their products.

Table 2. Main categories of food products with a declared foodborne issue.

product category	Percentage (%)
fish and seafood products	29,10
meat and meat products (other than poul	23,13
milk and milk products	18,66
poultry meat and poultry meat products	15,67
prepared dishes and snacks	5,97
fruits and vegetables	4,48
soups, broths, sauces and condiments	1,49
ices and desserts	0,75
cereals and bakery products	0,75

More than 90% of the concerned products were included into the following categories: fish and seafood products, meat and meat products (other than poultry), milk and milk products, poultry meat and poultry meat products and prepared dishes and snacks (table 2).

After having been evaluated, in more than 78% of the cases the decision taken classified them as serious risk. Less than 4% of the cases were classified as risk-free. However, in 18% of the cases

an assessment of the level of risk could not be made. It should be considered that this value could be high for the risk posed by listeria. The reasons that nulled the assessment were “distribution restricted to notifying country”, “distribution to other member countries”, “no distribution from notifying country”, “product (presumably) no longer on the market” and “information on distribution not (yet) available”.

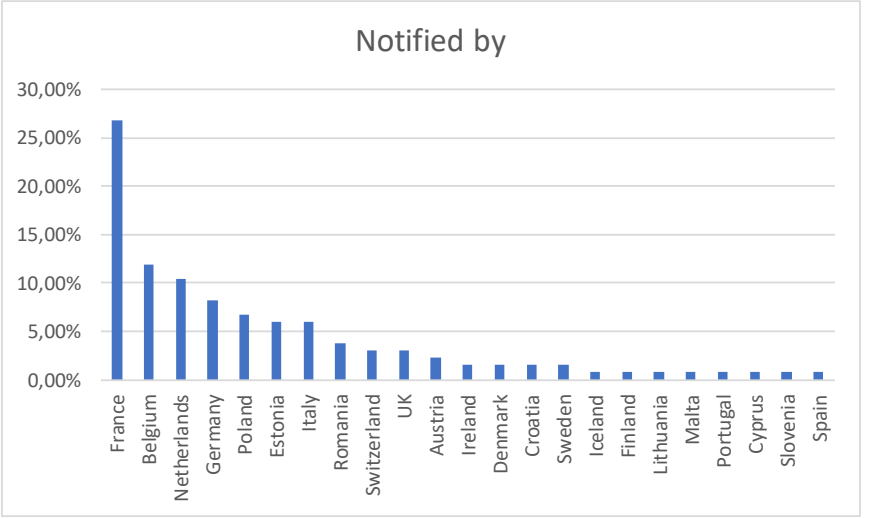

Figure 2. Number of reported notifications by country originating the issue.

The most active countries fighting against food concerns are, by order of reported cases and compiling 75% of the cases, France, Belgium, Netherlands, Germany, Poland, Estonia and Italy (figure 2). The countries the leads the higher impact of concerns are almost the same, covering 75% of cases are, by order of reported cases, France, Poland, Belgium, Netherlands, Italy, Germany and Lithuania (Figure 3).

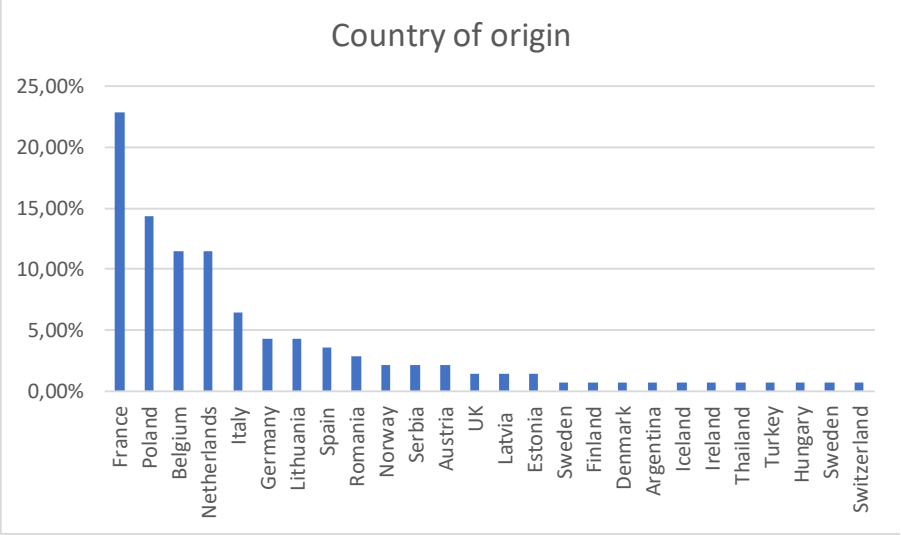

Figure 3. Impact of concern declared by the reporting countries.

The actions taken by involved countries to address the different concerns were those set out in Table 3. In 50% of the cases, citizen information methodologies were used to solve the problem. In 37 percent of the cases, direct measures were taken to remove the compromised products from the market. Other measures were taken too, as observed in table. Only in less than 3% of cases no measures were taken. In these cases, measures were not considered because the products (presumably) were no longer on the market or the distribution was restricted to the notifying country.

Table 3. Summary of main actions taken by reporting countries regarding the foodborne issues during 2020.

Action taken	Percentage (%)
recall from consumers	29,10
withdrawal from the market	22,39
informing recipient(s)	8,96
public warning - press release	8,96
Unknown	7,46
withdrawal from recipient(s)	6,72
destruction	4,48
informing authorities	3,73
no action taken	2,99
no stock left	1,49
official detention	1,49
detained by operator	0,75
physical/chemical treatment	0,75
seizure	0,75

Food fraud in Europe

Food fraud is typically motivated by economic gain, unscrupulous producers can adulterate genuine food products using a number of methods. They can dilute the concentration of genuine ingredients, with cheaper alternatives, they can mask the true origin of the product and they can completely substitute genuine products with inferior products. The impact of food fraud is not just a loss of finances to the consumer, but also a loss in trust, and potentially an adverse health effect, as unlisted ingredients could be allergens. In a four-year period 248 incidences of fraud were reported in RASFF. The most prevalent food type that was reported was meat (23%), the next most prevalent was seafood (19%). Much of this fraud was food being imported without the correct permission, however there were incidences of products being described as a particular species but actually being a fewer desirable species. Difficulty exists in testing the authenticity of certain food types, and these food types are targeted by those seeking to benefit economically. Extra virgin olive oil and basmati rice are premium products that are easily diluted with inferior ingredients, and great difficulty exists in detecting this adulteration. As shown in table 4, a review

of academic articles has reported that the most common foodstuff that is subjected to adulteration is Olive oil (16%), next was milk (14%). Major food fraud incidents have been proven to erode public confidence in the food chain, the most well-known recent incident was the horse meat scandal, were producers labelled horse meat as beef, or diluted minced beef with minced horse meat. Interventions are needed to enhance consumer trust, and one method that has been proven is providing transparency.

Table 4. Summary of scientific articles declaring food product adulteration in the past 5 years

Ingredient	No. records	% total records
Olive oil (all)	167	16
Milk (all)	143	14
Honey	71	7
Saffron	57	5
Orange juice	43	4
Coffee (all)	34	3
Apple juice	20	2
Grape wine	16	2
Maple syrup	16	2
Vanilla extract	16	2
Rice (all)	14	1
Cheese (all)	13	1
Milk fat (all)	13	1
Turmeric	12	1
Vegetable oil	11	1
Chili powder	10	1
Sesame oil	10	1
Cocoa powder	9	1
Strawberry puree	9	1
Beeswax	8	1
Chinese star anise	8	1
Durum wheat pasta	8	1
Guar gum	7	1
Palm oil	7	1
Paprika	7	1

3. Listeria challenge results

From June to November 2020, all the analyses scheduled for the 'Listeria flighters' challenge were carried out. The purpose of this task is to develop a useful methodology for assessing the risk of Listeria in ready-to-eat products. For this purpose, a "traffic light tool" is developed based on data provided by participants and data obtained in the laboratory. This tool allows establishing a colour code (red, green, amber), indicative of the risk of a product against Listeria contamination or growth. The laboratory provided information on analytical results through two simple techniques, such as the measurement of pH and water activity (aw).

AZTI scientists collected food products in different establishments. In total, 4 product lots were made, analysing a total of 316 products. All the information was registered in a proprietary database for further analysis.

Laboratory information obtained at the, and other information about the storage temperature of the product and its expiration date, a microbiological growth prediction tool (Combase; https://www.combase.cc/index.php/en/) established the ability of Listeria to grow in different food products. This predictive tool (Combase) offers two types of results: (1) the latency time (time needed for the micro-organism to adapt to the environment and start growing) in hours, and (2) the growth of the microorganism (on a logarithmic scale).

When the "growth" parameter showed a value above 2, the red indicator was set for the product. If "growth" parameter was between 1 and 2, the amber indicator was set, and if it was less than 1, the established indicator was green. Some other mitigating factors were also considered: variables that could affect the growth of Listeria, such as the presence of preservatives or competing microorganisms of the pathogen. Finally, after including all these parameters, the definitive colour indicator algorithm was determined.

On the other hand, in August 2020, AZTI researchers started with a series of challenges. Twenty-five food products (considered as representative models of different types of products) were contaminated in a controlled manner with 3 strains of *Listeria monocytogenes* and the evolution of the pathogen was subsequently observed. The controls were carried out weekly and lasted for 2 months. The objective of these tests was to establish if Listeria followed the patterns predicted by the tool and any of the factors mentioned above could affect Listeria growth. For the preservation of the contaminated products, a single temperature of 8 ºC was set for all of them.

Finally, between October and November 2020, consumers were involved in this project. There were encouraged to send ready-to-eat products to AZTI facilities laboratories to analyse them and include them in the study. A total of 125 products were collected from consumers (table 5). At the end of the project, two live chats were held with consumers, the first one to explain to consumers the methodology and the objective to be achieved, and a second one where the results obtained were shared and discussed.

Table 5. Food categories analysed in the CITIZEN SCIENCE Listeria challenge.

Food product	Category 1	Category 2	Analyses
Meat	Boiled/cooked	processed	73
Meat	Boiled/cooked	sausages	16
Meat	Boiled/cooked	Cold meat	4
Meat	Cured	manipulated	109
Meat	Cured	string	32
Dairy	Pasteurized	curdled	8
Foie gras	Boiled/cooked	chuncks	14
Fish	Smoked	slices	4
Fish	Boiled/cooked	With seafood	3
Fish	Canned		2
Ready-to-eat	Salad	acid	4
Ready-to-eat	Cooked		25
Cheese	soft	processed	69
Cheese	cream	spread	22
Cheese	cured	processed	14
Cheese	White		10
Cheese	melted		5
Cheese	Semi-cured	processed	16
Vegetables	fresh	salads	19

Some representative food examples results are shown in more detail.

Cooked meat - without any process (sausages)

There is no presence of microorganisms that could compete with Listeria, as the cooking processes are at high temperatures. There is also no possibility of the product being contaminated after cooking, as there is no handling. All products tested are vacuum packed. The percentage of salt is not high enough to condition the growth of Listeria, it is between 0.8 and 2.1%. In general, they contain E-250 and/or E-262 additives, although there are some products without preservatives.

Sixteen products were analysed in this category. Most of them were pork (9), of different types, Viennese, Frankfurt, Bratwurst, etc. There were also 5 poultry, chicken-turkey products. Finally, 2 products containing cheese were analysed.

Most of the predictions made indicated possible growth. The onset of growth is between days 25 and 35, although without incidence, as the possibility of Listeria in the product is null. The cooking process eliminates Listeria. Furthermore, there is no possibility of contamination because there is no post-cooking handling.

No contamination tests have been carried out for this category.

As a conclusion, it can be said that this type of products is safe against Listeria, as due to the manufacturing process the probability of the presence of this bacterium in the product is eliminated. Furthermore, there is no possibility of contamination as the cooking is done in the packaging itself.

The models predict that there could be growth after 25-30 days, although in this case it is not feasible due to the aforementioned. For these reasons, a green indicator is established.

Cooked meat - without any process (cold meat)

There is no presence of microorganisms that can compete with Listeria, as the cooking processes are at high temperatures. There is also no possibility of the product being contaminated after cooking, as it is cooked in the packaging itself. There is in the consumer's home, as these are products that require handling for consumption, cutting with a knife and are not for immediate consumption; part of the product is left to be consumed later.

Four analyses were carried out, including no challenge test.

Predictions indicate growth from day 18 onwards. On the other hand, although all products tested had some preservatives, their effect on Listeria is unknown. As far as contamination is concerned, there is a possibility that this could occur at the consumer's house, since these are products that, as mentioned above, require handling and are not for immediate consumption. The label does not contain any message about the shelf life of the product once opened.

In principle, these foods are safe from Listeria, as the manufacturing process eliminates the likelihood of the presence of this bacterium. Furthermore, there is no possibility of contamination as the cooking is done in the packaging itself. However, the danger lies in the fact that they can be contaminated in the consumer's own home. This is compounded by the long shelf life and the fact that the consumption time after opening is not stated on the label. Models predict growth from day 18 onwards. For this reason, an amber indicator is assigned.

Manufacturers should be required to indicate on the label the shelf life after opening, which for safety reasons should not be longer than 15 days.

Foie gras (chunks)

There are no bacteria present that could compete with Listeria. The product can come from the origin contaminated with Listeria, but most manufacturers perform 2 heat treatments that eliminate it.

Fourteen products in this category were analysed. There is variability in the models, the prediction for growth initiation is between 18 and 35 days, i.e., in the worst-case scenario, growth can occur during shelf life. There is no other variable that limits growth.

The possibility of contamination is in the handling of cutting and packaging. Usually, a second treatment is done to minimise the risk, but not in all cases and this can be a problem.

In conclusion, foie grass medallions are products where Listeria can develop, so the critical point is hygiene in the cutting and packaging phase and also in the second treatment. It is the responsibility of the manufacturers to check that the whole process is done correctly. Legislation requires constant control of this kind of products. Because not all manufacturers ensure this second treatment, an amber colour indicator is established.

Smoked fish

There are no bacteria present that could compete with Listeria. Fish in general can carry Listeria at source. The risk of transferring contamination to the product exists, but smoke processing is effective in eliminating it.

Analyses were carried out on 4 products in this category, all smoked salmon.

Under the distribution conditions indicated by the manufacturer, 4 ºC and one month shelf life, no growth is predicted for any of the products tested. There are no other variables affecting growth. The critical phase, where the product can be re-contaminated with Listeria, is in the slicing-weighing phase. A lot of handling is required, and very strict hygienic guidelines have to be established.

In conclusion, although in principle it might appear to be a safe product, because the predictions provided by predictive microbiology models indicate that there is no growth, it has been decided to assign an amber indicator. There are two reasons for this decision. Firstly, that this is a product with a lot of handling at a critical stage, leading to a "moderate" likelihood of contamination. Secondly, the limits set by the manufacturers on the storage temperature, 4 ºC, although correct, are difficult to comply with, and it has been proven in the contamination test that slight increases in temperature can promote significant growth.

Cooked fish with seafood

There are no bacteria present that could compete with Listeria. We have no information if the cooking process takes place after packaging or before. In any case, there is little handling and the risk of contamination with Listeria is low.

Three products in this category have been tested, one of the products, according to the model, could grow Listeria at the end of shelf life. There are no other variables conditioning growth. It is not known how the cooking phase is carried out. In any case, since there is little handling, the probability of contaminating the product with Listeria is low or zero.

It can be considered a safe product from a Listeria point of view, because although the model predicts a possible end-of-life growth for one of the analysed products, the probability of contaminating the product with Listeria is low or null. For this reason, the green code is assigned.

Ready-to eat salads (acidic)

No bacteria that could compete with Listeria are present. It is rare that the raw materials are carriers of Listeria, as it is not complicated to sanitise them. In addition, pH below 4.2 inactivates Listeria.

Analyses were carried out on 4 products in this category.

A contamination test was carried out on vegetable tabouleh. The model for storage at 8°C does not predict growth over the shelf life, and this was confirmed in the test, as no growth was detected.

The model does not predict growth since the pH of these products is below 4.

These salads are safe products against Listeria, as their acidity level does not allow growth. Furthermore, further contamination is unlikely. Thus, this category has a green colour indicator.

Soft cheese

There are no micro-organisms that compete with Listeria, the lactic bacteria that these cheeses may have do not stop their growth ¡, as they are not able to reduce the pH.

Analyses were carried out on 70 products in this category.

Three contamination tests were carried out on soft cheese, goat cheese and mozzarella. The model for storage at 8°C predicts growth from days 51, 51, 26, respectively. The tests confirmed these predictions, although for soft cheese and curd cheese, growth started at 35 days instead of the predicted 51 days.

There is a lot of variability, but for many cheeses the models predict significant growth, some as early as 21 days of age. The shelf life of most of the cheeses tested exceeds one month. There are no other variables that could have an influence.

There may be a possibility of growth, as they receive a lot of manipulation during the cutting process. Although the processes are hygienic and automated, the risk exists. Wedge presentation brings the added risk that the product is handled in the home.

In this type of product there are 2 critical points regarding the risk of Listeria. On the one hand, hygiene in the slicing and/or cutting phase, which is generally good, and manufacturers are obliged to control, and on the other hand, the shelf life, which is usually more than one month, which could be excessive. Many have longer shelf lives. Listeria has been shown to be able to grow in some products, and although they are known to be highly controlled, there is some risk and therefore a red colour code is assigned.

White cheese

Lactic bacteria are only present in the traditionally produced milk, but in order to be effective in competing with Listeria, they must be able to reduce the pH, *i.e.* increase the acidity of the product.

Seven products in this category were analysed.

The predictive models indicate, in all cases analysed, that growth can start between days 8 and 20, although the possibility of contamination after pasteurisation is very low, as they are produced by industrial processes with a high level of hygiene. At the consumer's house, the chances are also low, as consumption is usually immediate.

White cheeses are products in which Listeria can easily develop. The critical point is the hygiene in the production of these products. In general, they are hygienic industrial processes, and even more so when they are manufactured using the ultrafiltration process. In the case of traditional fresh cheese, which requires more handling and other bacteria are present, the shelf life is shorter, and the message is usually included that once opened it should be consumed within 48 hours, so they are safe from Listeria. The number of incidences of Listeria in these products is zero, so a green indicator is assigned.

The main result of the analysis activity is a ***"traffic light tool"*** to assessing the risk of Listeria in ready-to-eat products. This tool is based on data provided by participants on the "2020 Listeria Citizen Science Challenge" and data obtained in our laboratory (table 6).

Table 6.- Summary of food products analysed, and their corresponding risk assessed.

Food product	Category 1	Category 2	traffic light colour
Meat	Boiled/cooked	processed	AMBER
Meat	Boiled/cooked	sausages	GREEN
Meat	Boiled/cooked	Cold meat	AMBER
Meat	Cured	manipulated	GREEN
Meat	Cured	string	AMBER
Dairy	Pasteurized	curdled	GREEN
Foie gras	Boiled/cooked	chuncks	AMBER
Fish	Smoked	slices	AMBER
Fish	Boiled/cooked	With seafood	GREEN
Fish	Canned		GREEN
Ready-to-eat	Salad	acid	GREEN
Ready-to-eat	Cooked		GREEN
Cheese	soft	processed	RED
Cheese	cream	spread	AMBER
Cheese	cured	processed	GREEN
Cheese	White		GREEN
Cheese	melted		GREEN
Cheese	Semi-cured	processed	AMBER
Vegetables	fresh	salads	GREEN

To facilitate the communication of the results to consumers, a collection of "information cards" have been made to assist consumers in handling and preserving food as well as the finding obtained for each product category. An example of this card of processed soft cheese ("queso blando manipulado") a is shown in figure 5.

Fig 4.- An information card for consumers with handle and preserving operations and the main conclusions regarding the safety of every product. (a processed soft cheese card is shown).

4. Rice challenge results

Basmati rice is the most common type of rice to be adulterated, due to its premium price. Our laboratory has developed two different methods to determine authentic basmati rice from adulterated rice. The first method looks at the entire volatile chemical fingerprint of each sample and compares it to fingerprints of authentic basmati samples. Not every peak in the sample fingerprint must match the authentic basmati standard, but most of them should match to be considered compliant with our evaluation. The technical term for this type of analysis is chemometric metabolomics.

The second type of analysis we use is called targeted component analysis. We know the compounds unique to basmati rice that are partially responsible for its smell and taste. We can pick these essential components out of a volatile chemical fingerprint from a rice sample and determine if it is authentic or not. The sample can have varying amounts of these basmati smell and taste compounds, but if they are not present in a rice sample, we consider them to be non-compliant in our basmati authenticity testing guidelines.

Annexes

Results from RASFF

Search result: 258 notifications of microbial contaminants (other)
136 notifications of listeria

Created on 17.12.2020

Search criteria | Notified **from** 01/01/2020 | **Notified till** 17/12/2020 | **Hazard category** microbial contaminants (other)

EIT Food – Making Food Innovation Happen

Knowledge & Innovation Community on Food - http://www.eitfood.eu

This EIT Food activity has received funding from the European Institute of Innovation and Technology (EIT), a body of the European Union, under Horizon2020, the EU Framework Programme for Research and Innovation.

EIT Food is Europe's leading agri-food innovation initiative, with the aim to create a sustainable and future-proof food sector. The initiative is made up of a consortium of key industry players, start-ups, research centres and universities from across Europe. EIT Food aims to collaborate closely with consumers to develop new knowledge and technology-based products and services that will ultimately deliver a healthier and more sustainable lifestyle for all European citizens.

product category	date	reference	product type	notification type	notification basis	notified by	countries concerned	subject	action taken	distribution status	risk decision
cephalopods and products thereof	29/06/2020	2020.2633	food	alert	company's own check	Spain	Italy (D), Spain (D/O)	Listeria monocytogenes (presence /25g) in frozen sliced cooked octopus from Spain	destruction	distribution to other member countries	serious
cereals and bakery products	17/11/2020	2020.5063	food	alert	company's own check	Netherlands	Germany (D), Netherlands (O)	Listeria monocytogenes (presence /25g) in sweet chilli wraps from the Netherlands		distribution to other member countries	serious
crustaceans and products thereof	20/07/2020	2020.2949	food	information for attention	company's own check	Italy	INFOSAN, Italy (D), Spain (O), Venezuela	Listeria monocytogenes (present /25g) in chilled cooked tropical shrimps (Litopenaeus vannamei) from Spain	informing authorities	product (presumably) no longer on the market	serious
crustaceans and products thereof	23/10/2020	2020.4480	food	alert	company's own check	Belgium	Belgium (O), Netherlands (D)	Listeria monocytogenes (presence /25g) in chilled cooked shrimps from Belgium	informing recipient(s)	distribution to other member countries	serious
fish and fish products	03/02/2020	2020.0525	food	information for follow-up	company's own check	France	France (D), Poland (O)	Listeria monocytogenes (760 CFU/g) in frozen wild salmon portions (Oncorhynchus keta) from Poland	withdrawal from the market	no distribution from notifying country	undecided
fish and fish products	13/02/2020	2020.0728	food	information for attention	company's own check	Netherlands	INFOSAN, Netherlands (D), Turkey (O)	Listeria monocytogenes (580 CFU/g) in frozen smoked trout fillet from Turkey	destruction	distribution restricted to notifying country	serious

fish and fish products	13/02/2020	2020.0740	food	information for follow-up	company's own check	France	Commission Services, France (D), Poland (O)	Listeria monocytogenes (<10 CFU/g) in chilled prepacked smoked trout from Poland	recall from consumers	distribution restricted to notifying country	undecided
fish and fish products	21/02/2020	2020.0876	food	alert	official control on the market	Netherlands	Belgium (D), Germany (D), Netherlands (D/O)	Listeria monocytogenes (presence /25g) in chilled smoked salmon from the Netherlands	informing recipient(s)	distribution to other member countries	serious
fish and fish products	04/03/2020	2020.1049	food	alert	company's own check	Cyprus	Cyprus (D), Poland (O)	Listeria monocytogenes (presence /25g) in vacum-packed organic sliced frozen smoked salmon from Poland	destruction	distribution restricted to notifying country	serious
fish and fish products	10/03/2020	2020.1140	food	alert	company's own check	Italy	France (D), Italy (D/O), Spain (D)	Listeria monocytogenes (60; 100 CFU/g) in chilled herring fillets from Italy	recall from consumers	distribution to other member countries	serious
fish and fish products	01/04/2020	2020.1484	food	alert	official control on the market	Poland	France (D), Poland (D/O)	Listeria monocytogenes (1400 CFU/g) in frozen smoked trout slices from Poland	withdrawal from the market	distribution to other member countries	serious
fish and fish products	14/04/2020	2020.1631	food	alert	company's own check	France	France (D), Slovenia (D), United Kingdom (O)	Listeria monocytogenes (600 CFU/g) in chilled organic smoked salmon from the United Kingdom	recall from consumers	distribution to other member countries	serious
fish and fish products	29/04/2020	2020.1811	food	information for attention	company's own check	Belgium	Belgium, Netherlands (D/O)	Listeria monocytogenes (presence /25g) in chilled cod fillet	informing authorities	product (presumably) no longer on the market	undecided

								from the Netherlands			
fish and fish products	08/05/2020	2020.1950	food	information for attention	company's own check	Romania	INFOSAN, Moldova (D), Romania (D/O)	Listeria monocytogenes (presence /25g) in trout cream with butter from Romania	withdrawal from the market	distribution to non-member countries	serious
fish and fish products	28/05/2020	2020.2219	food	information for attention	official control on the market	Portugal	Portugal (D), Spain (O)	Listeria monocytogenes (1100 CFU/g) in chilled smoked codfish from Spain	no action taken	product (presumably) no longer on the market	serious
fish and fish products	03/06/2020	2020.2276	food	alert	company's own check	Switzerland	Germany (O), Switzerland (D)	Listeria monocytogenes (130 CFU/g) in chilled smoked salmon from Germany	recall from consumers	distribution restricted to notifying country	serious
fish and fish products	11/06/2020	2020.2409	food	information for follow-up	official control on the market	Croatia	Austria (D), Croatia (D), INFOSAN, Montenegro (D), Norway (O), Serbia (O)	Listeria monocytogenes (<100 CFU/g) in frozen smoked salmons filets from Serbia, with raw material from Norway	recall from consumers	distribution to other member countries	undecided
fish and fish products	19/06/2020	2020.2528	food	information for attention	official control on the market	Slovenia	INFOSAN, Serbia (O), Slovenia	Listeria monocytogenes (120 CFU/g) in chilled smoked salmon from Serbia	recall from consumers	product (presumably) no longer on the market	serious
fish and fish products	19/06/2020	2020.2530	food	alert	company's own check	Croatia	Croatia (D), INFOSAN, Italy, Norway (O), Serbia (O), Slovenia	Listeria monocytogenes (up to 200 CFU/g) in chilled smoked salmon from Serbia, with raw material from Norway, via Slovenia	recall from consumers	distribution restricted to notifying country	serious

fish and fish products	22/06/2020	2020.2546	food	alert	food poisoning	Netherlands	Belgium (D), Commission Services, Netherlands (O), Spain	foodborne outbreak suspected to be caused by Listeria monocytogenes in chilled smoked trout fillets from the Netherlands	public warning - press release	distribution to other member countries	serious
fish and fish products	02/07/2020	2020.2696	food	information for attention	company's own check	France	France (D/O), INFOSAN, Jordan (D), Singapore (D)	Listeria monocytogenes (presence) in smoked salmon bacon from France	withdrawal from the market	distribution to non-member countries	serious
fish and fish products	03/07/2020	2020.2709	food	alert	company's own check	Sweden	Denmark (D), Norway (O), Sweden (D)	Listeria monocytogenes (presence /25g) in frozen salmon from Norway	withdrawal from the market	distribution to other member countries	serious
fish and fish products	15/07/2020	2020.2878	food	alert	official control on the market	Italy	Italy (D), Poland (O)	Listeria monocytogenes (in 3 out of 5 samples /25g) in chilled sliced smoked salmon from Poland	withdrawal from the market	distribution restricted to notifying country	serious
fish and fish products	16/07/2020	2020.2912	food	alert	company's own check	France	Belgium (D), France (D/O)	Listeria monocytogenes (<10 CFU/g) in chilled sliced smoked salmon from France	recall from consumers	distribution to other member countries	serious
fish and fish products	30/07/2020	2020.3094	food	information for attention	company's own check	France	France (O), INFOSAN, Monaco (D)	Listeria monocytogenes (< 10 CFU/g) in chilled salmon with dill from France	withdrawal from the market	distribution to non-member countries	serious
fish and fish products	03/08/2020	2020.3129	food	information for follow-up	official control on the market	Poland	Italy (D), Poland (O)	Listeria monocytogenes (presence /25g) in chilled vacuum-packed smoked salmon from Poland		distribution to other member countries	not serious

fish and fish products	03/09/2020	2020.3548	food	alert	official control on the market	Italy	Italy (D), Poland (O)	Listeria monocytogenes (1100 CFU/g) in chilled vacuum-packed salmon trimmings from Poland	destruction	no distribution from notifying country	serious
fish and fish products	09/09/2020	2020.3675	food	alert	official control on the market	Poland	Germany (D), Poland (O)	Listeria monocytogenes (presence /25g) in frozen caviar from Poland	withdrawal from the market	distribution to other member countries	serious
fish and fish products	17/09/2020	2020.3706	food	information for follow-up	official control on the market	Estonia	Estonia (D), Latvia (O)	Listeria monocytogenes (< 10 CFU/g) in chilled smoked sliced trout from Latvia	withdrawal from the market	distribution restricted to notifying country	undecided
fish and fish products	17/09/2020	2020.3802	food	information for follow-up	company's own check	Iceland	Denmark (D), Iceland (D/O)	Listeria monocytogenes (<10 CFU/g) in frozen smoked salmon from Iceland	informing recipient(s)	distribution to other member countries	undecided
fish and fish products	29/09/2020	2020.3970	food	information for follow-up	official control on the market	Italy	Italy (D), Poland (O)	Listeria monocytogenes in chilled smoked salmon trimmings from Poland	official detention	no distribution from notifying country	undecided
fish and fish products	29/09/2020	2020.3994	food	alert	official control on the market	Italy	Commission Services, Italy (D), Poland (O)	Listeria monocytogenes (> 100 CFU/g) in chilled smoked salmon trimmings from Poland	official detention	distribution restricted to notifying country	serious
fish and fish products	29/09/2020	2020.3997	food	information for attention	official control on the market	Germany	Germany (D), Poland (O)	Listeria monocytogenes (up to 8700 CFU/g) in chilled hot smoked salmon strips from Poland	no stock left	product (presumably) no longer on the market	serious
fish and fish products	09/10/2020	2020.4030	food	information for attention	official control on the market	Estonia	Estonia (D), Lithuania (O)	Listeria monocytogenes (<10 CFU/g) in	no stock left	product (presumably)	serious

								smoked salmon from Lithuania		no longer on the market	
fish and fish products	06/10/2020	2020.4104	food	alert	official control on the market	Italy	Italy (D), Poland (O)	Listeria monocytogenes (< 10 CFU/g) in chilled salmon trimmings from Poland	detained by operator	distribution restricted to notifying country	serious
fish and fish products	08/10/2020	2020.4167	food	information for attention	official control on the market	Italy	Italy (D), Netherlands (O)	Listeria monocytogenes (< 10 CFU/g) in chilled smoked salmon from the Netherlands	no action taken	product (presumably) no longer on the market	undecided
fish and fish products	15/10/2020	2020.4320	food	alert	official control on the market	Poland	Denmark (D), France (D), Germany (D), Poland (O)	Listeria monocytogenes (presence /25g) in sliced smoked salmon from Poland	withdrawal from the market	distribution to other member countries	serious
fish and fish products	27/10/2020	2020.4572	food	alert	official control on the market	Estonia	Estonia (D/O), Latvia (O)	Listeria monocytogenes (presence /25g) in chilled cold smoked sockeye salmon trimmings (Oncorhynchus nerka) with dill from Latvia, with raw material from Estonia	withdrawal from recipient(s)	distribution restricted to notifying country	serious
fish and fish products	13/11/2020	2020.4992	food	information for follow-up	official control on the market	France	France (D), Poland (O)	Listeria monocytogenes (< 10 CFU/g) in chilled smoked salmon from Poland	withdrawal from the market	no distribution from notifying country	undecided
fish and fish products	02/12/2020	2020.5472	food	alert	official control on the market	Germany	Austria (D), Denmark (O), Germany (D), Switzerland (D)	Listeria monocytogenes (68000 CFU/g) in chilled smoked trout fillet from Denmark		distribution to other member countries	serious

fruits and vegetables	16/01/2020	2020.0210	food	information for follow-up	official control on the market	United Kingdom	Belgium (O), United Kingdom (D)	Listeria monocytogenes in frozen potato slices from Belgium		no distribution from notifying country	not serious
fruits and vegetables	05/02/2020	2020.0579	food	information for follow-up	company's own check	Netherlands	Belgium (D), Ireland (D), Netherlands (O)	Listeria spp (present /25g) in rucola from the Netherlands	informing recipient(s)	distribution to other member countries	undecided
fruits and vegetables	11/02/2020	2020.0680	food	alert	company's own check	Netherlands	Belgium (D), Netherlands (O)	Listeria monocytogenes (<10 CFU/g) in kale from the Netherlands	informing recipient(s)	distribution to other member countries	serious
fruits and vegetables	01/07/2020	2020.2682	food	information for attention	company's own check	Belgium	Belgium (D), France (O), Luxembourg (D)	Listeria monocytogenes (30 /25g) in organic salad leaves from France	informing authorities	product (presumably) no longer on the market	not serious
fruits and vegetables	30/07/2020	2020.2995	food	information for attention	official control on the market	Austria	Austria (D), Spain (O)	Listeria monocytogenes (< 10 CFU/g) in fresh raspberries from Spain	informing authorities	distribution restricted to notifying country	not serious
fruits and vegetables	11/08/2020	2020.3216	food	information for attention	company's own check	Denmark	Denmark (D), Sweden (O)	Listeria monocytogenes (presence /25g) in organic rucola from Sweden	recall from consumers	product (presumably) no longer on the market	serious
ices and desserts	26/03/2020	2020.1405	food	alert	company's own check	Belgium	Belgium (O), Germany (D), Netherlands (D)	Listeria monocytogenes (presence /25g) in frozen bavarois pastry from Belgium	seizure	distribution to other member countries	serious
meat and meat products (other than poultry)	10/01/2020	2020.0150	food	information for attention	company's own check	Belgium	Belgium (D/O), France (D)	Listeria monocytogenes (<10 CFU/g) in chilled cooked sausage with parsley from Belgium	public warning - press release	product (presumably) no longer on the market	serious

meat and meat products (other than poultry)	21/01/2020	2020.0301	food	alert	company's own check	Belgium	Belgium (D/O), Italy (O)	Listeria monocytogenes (presence /25g) in chilled raw ham from Italy, packaged in Belgium	public warning - press release	distribution restricted to notifying country	serious
meat and meat products (other than poultry)	23/01/2020	2020.0357	food	alert	company's own check	France	Belgium (D), France (D/O)	Listeria monocytogenes (<10 CFU/g) in chilled horse salami from France	recall from consumers	distribution to other member countries	serious
meat and meat products (other than poultry)	27/01/2020	2020.0409	food	alert	official control on the market	Germany	Austria (D), Germany (D/O)	withdrawal of various chilled meat products from Germany due to possible contamination with Listeria monocytogenes	recall from consumers	distribution to other member countries	serious
meat and meat products (other than poultry)	18/02/2020	2020.0810	food	alert	company's own check	Belgium	Belgium (D/O), Germany (O), Luxembourg (D)	Listeria monocytogenes (present /25g) in chilled cooked meatballs (knacks) from Belgium, with raw material from Germany	public warning - press release	distribution to other member countries	serious
meat and meat products (other than poultry)	18/02/2020	2020.0816	food	information for follow-up	company's own check	France	France (D), Italy (O)	Listeria monocytogenes (50 CFU/g) in chilled pork salami (soppressata) from Italy	destruction	distribution restricted to notifying country	undecided
meat and meat products (other than poultry)	25/03/2020	2020.1384	food	information for follow-up	company's own check	Germany	Argentina (O), Austria (D), Germany (D), Italy	Listeria monocytogenes (200 CFU/g) and too high count of Enterobacteriaceae (300000 CFU/g) in frozen roastbeef from Argentina, via Italy	withdrawal from the market	distribution to other member countries	undecided

meat and meat products (other than poultry)	26/03/2020	2020.1413	food	alert	company's own check	France	Belgium (D), France (O)	Listeria monocytogenes (<10 /g) in chilled marbled ham from France	withdrawal from the market	distribution to other member countries	serious
meat and meat products (other than poultry)	15/05/2020	2020.2058	food	information for attention	company's own check	Sweden	Italy (O), Sweden (D/O)	Listeria monocytogenes (presence /25g) in salami from Italy, processed in Sweden	informing recipient(s)	distribution restricted to notifying country	serious
meat and meat products (other than poultry)	19/05/2020	2020.2088	food	information for attention	company's own check	Netherlands	Belgium (D), Netherlands (O)	Listeria monocytogenes (presence) in chilled raw beef steaks from the Netherlands	informing recipient(s)	product (presumably) no longer on the market	undecided
meat and meat products (other than poultry)	05/06/2020	2020.2321	food	alert	company's own check	France	France (D), Italy (O)	Listeria monocytogenes (< 10; up to 24000 CFU/g) in chilled organic mortadella from Italy	withdrawal from the market	distribution restricted to notifying country	serious
meat and meat products (other than poultry)	19/06/2020	2020.2522	food	alert	company's own check	France	Belgium (O), France (D)	Listeria monocytogenes (IIa and IIc, <100 CFU/g) in chilled roasted cooked smoked pork belly from Belgium	withdrawal from the market	distribution restricted to notifying country	serious
meat and meat products (other than poultry)	30/06/2020	2020.2634	food	information for attention	company's own check	France	France (O), Guinea (D), INFOSAN	Listeria monocytogenes (710 CFU/g) in chilled andouille from France	withdrawal from the market	distribution to non-member countries	serious
meat and meat products (other than poultry)	03/07/2020	2020.2724	food	alert	official control on the market	Romania	Czech Republic (D), Hungary (D/O), Netherlands (D), Romania (D), Slovakia (D)	Listeria monocytogenes (presence /25g) in dried raw sausages from Hungary	withdrawal from the market	distribution to other member countries	serious
meat and meat products	06/07/2020	2020.2735	food	alert	official control on the market	Romania	Austria (D), Belgium, Germany (D), Italy (D), Romania (O), Spain (D), United Kingdom (D)	Listeria monocytogenes (presence /25g) in	destruction	distribution to other	serious

(other than poultry)								pork salami from Romania		member countries	
meat and meat products (other than poultry)	14/07/2020	2020.2855	food	alert	official control on the market	Poland	Poland (D/O), United Kingdom (D)	Listeria monocytogenes (290 CFU/g) in chilled chicken and pork burgers from Poland	recall from consumers	distribution to other member countries	serious
meat and meat products (other than poultry)	12/08/2020	2020.3250	food	alert	company's own check	Belgium	Belgium (O), Netherlands (D)	Listeria monocytogenes (presence /25g) in pâté from Belgium	recall from consumers	distribution to other member countries	serious
meat and meat products (other than poultry)	28/08/2020	2020.3470	food	alert	company's own check	Belgium	Belgium (O), Luxembourg (D)	Listeria monocytogenes (presence /25g) in chilled pressed head from Belgium	public warning - press release	distribution to other member countries	serious
meat and meat products (other than poultry)	01/09/2020	2020.3516	food	information for attention	company's own check	France	Belgium (D), France (D/O), Spain (D)	Listeria monocytogenes (22000 CFU/g) in chilled pork confit from France	recall from consumers	product (presumably) no longer on the market	serious
meat and meat products (other than poultry)	04/09/2020	2020.3585	food	alert	company's own check	Belgium	Belgium (O), Netherlands (D)	Listeria monocytogenes (presence /25g) in chilled paté with nuts from Belgium	recall from consumers	distribution to other member countries	serious
meat and meat products (other than poultry)	03/11/2020	2020.3975	food	information for follow-up	official control on the market	Germany	Germany (D), Poland (O)	Listeria monocytogenes (910 CFU/g) in chilled beef from Poland		information on distribution not (yet) available	undecided
meat and meat products (other than poultry)	29/09/2020	2020.3991	food	alert	company's own check	Belgium	Belgium (D/O), France (D)	Listeria monocytogenes (present /25g) in frozen roasted meatballs from Belgium	recall from consumers	distribution to other member countries	serious
meat and meat products	07/10/2020	2020.4109	food	information for attention	company's own check	Germany	Austria (D), Germany (O)	Listeria monocytogenes (200 CFU/g) in soft	recall from consumers	product (presumably)	serious

(other than poultry)								sausage strips from Germany		no longer on the market	
meat and meat products (other than poultry)	13/10/2020	2020.4267	food	alert	company's own check	France	Belgium (D), France (O)	Listeria monocytogenes (<10 CFU/g) in chilled ready-to-eat sausages (cervelas) from France	recall from consumers	distribution to other member countries	serious
meat and meat products (other than poultry)	16/10/2020	2020.4364	food	alert	company's own check	France	Czech Republic (D), France (O), United Kingdom (D)	Listeria monocytogenes (<10 CFU/g) in ham trimmings from France	recall from consumers	distribution to other member countries	serious
meat and meat products (other than poultry)	20/10/2020	2020.4415	food	alert	official control on the market	Estonia	Estonia (D/O), Finland (D), Lithuania (D)	Listeria monocytogenes (in 2 out of 5 samples /25g) in chilled meat roulade from Estonia	withdrawal from recipient(s)	distribution to other member countries	serious
meat and meat products (other than poultry)	23/10/2020	2020.4511	food	alert	company's own check	Romania	Romania (D/O), United Kingdom (D)	Listeria monocytogenes (presence /25g) in semi-smoked sausages from Romania	withdrawal from the market	distribution to other member countries	serious
meat and meat products (other than poultry)	06/11/2020	2020.4804	food	information for attention	company's own check	France	France (D/O), French Polynesia (D), INFOSAN, Japan (D)	Listeria monocytogenes (>100 CFU/g) in dry sausages from France	recall from consumers	distribution to non-member countries	serious
meat and meat products (other than poultry)	17/11/2020	2020.5067	food	alert	official control on the market	United Kingdom	Ireland (D), Spain (O), United Kingdom (D)	Listeria monocytogenes (330 CFU/g) in chilled sliced spicy chorizo from Spain	public warning - press release	distribution to other member countries	serious
meat and meat products (other than poultry)	30/11/2020	2020.5408	food	alert	company's own check	Belgium	Belgium (O), Netherlands (D)	Listeria monocytogenes (presence /25g) in chilled paté from Belgium	informing recipient(s)	distribution to other member countries	serious

meat and meat products (other than poultry)	08/12/2020	2020.5612	food	alert	official control on the market	Poland	Ireland (D), Poland (D/O)	Listeria monocytogenes (presence /25g) in chilled smoked pork meat from Poland	withdrawal from the market	distribution to other member countries	serious
milk and milk products	28/01/2020	2020.0415	food	alert	company's own check	France	France (D/O), Switzerland (D)	Listeria monocytogenes (<100 CFU/g) in raw milk goat's cheese from France	withdrawal from the market	distribution to other member countries	serious
milk and milk products	30/01/2020	2020.0466	food	alert	company's own check	France	Belgium (D), France (D/O), Germany (D), INFOSAN, Italy (D), Japan (D), Netherlands (D)	Listeria monocytogenes (<10 CFU/g) in camembert cheese from France	withdrawal from the market	distribution to other member countries	serious
milk and milk products	18/03/2020	2020.1254	food	alert	company's own check	Netherlands	Belgium (D), France (D), Netherlands (O)	Listeria monocytogenes (presence /25g) in cheese from the Netherlands	withdrawal from recipient(s)	distribution to other member countries	serious
milk and milk products	06/04/2020	2020.1534	food	alert	company's own check	France	Belgium (D), Commission Services, France (D/O), INFOSAN, Taiwan (D)	Listeria monocytogenes (110 CFU/g) in chilled raw ewe's milk cheese from France	recall from consumers	distribution to other member countries	serious
milk and milk products	17/04/2020	2020.1679	food	alert	company's own check	France	France (D/O), Spain (D)	Listeria monocytogenes (<10 CFU/g) in raw milk cheese (Morbier) from France	recall from consumers	distribution to other member countries	serious
milk and milk products	01/05/2020	2020.1843	food	alert	company's own check	France	Belgium (D), France (D/O)	Listeria monocytogenes (1800 CFU/g) in chilled pasteurised ewe's milk cheese from France	recall from consumers	distribution to other member countries	serious
milk and milk products	08/05/2020	2020.1951	food	alert	company's own check	Switzerland	Belgium (D), Germany (D), Switzerland (D/O)	Listeria monocytogenes (serotype 4B, ST6)	public warning - press release	distribution to other	serious

								in semi hard cheese from Switzerland		member countries	
milk and milk products	15/05/2020	2020.2046	food	alert	company's own check	France	France (O), Germany (D)	Listeria monocytogenes (presence /25g) in goat cheese balls filled with honey from France	recall from consumers	distribution to other member countries	serious
milk and milk products	18/06/2020	2020.2508	food	alert	company's own check	Austria	Austria (D/O), Germany (D), Italy (D)	Listeria monocytogenes (up to 5300 CFU/g) in sliced cheese from Austria	recall from consumers	distribution to other member countries	serious
milk and milk products	01/07/2020	2020.2672	food	alert	official control on the market	Germany	Germany (D), Italy (O)	Listeria monocytogenes (presence /25g) in gorgonzola cheese from Italy	recall from consumers	information on distribution not (yet) available	serious
milk and milk products	28/07/2020	2020.3057	food	alert	food poisoning	Malta	Italy (D/O), Malta (D)	foodborne outbreak suspected to be caused by Listeria monocytogenes in chilled mozzarella in block from Italy	recall from consumers	no distribution to other member countries	serious
milk and milk products	28/08/2020	2020.3478	food	alert	company's own check	France	France (D/O), Germany (D), Spain (D)	Listeria monocytogenes (up to 480 CFU/g) in chilled goat cheese from France	recall from consumers	distribution to other member countries	serious
milk and milk products	09/09/2020	2020.3665	food	information for follow-up	consumer complaint	Bulgaria	Andorra (D), Austria (D), Bulgaria (D), Croatia (D), Estonia (D), Germany (D/O), Luxembourg (D), Portugal (D), Spain (D)	high count of yeasts in chilled skyr cheese from Germany	withdrawal from the market	distribution to other member countries	not serious
milk and milk products	21/09/2020	2020.3835	food	alert	company's own check	France	Belgium (D), France (D), INFOSAN, Italy (O), Madagascar (D), Mauritius (D), New Caledonia (D)	Listeria monocytogenes (<30 CFU/g) in gorgonzola from Italy	withdrawal from the market	distribution to other member countries	serious

milk and milk products	22/09/2020	2020.3866	food	alert	company's own check	Belgium	Belgium (D/O), Netherlands (D)	Listeria monocytogenes (<10 CFU/g /25g) in raw milk goat's cheese from Belgium	withdrawal from the market	distribution to other member countries	serious
milk and milk products	01/10/2020	2020.4037	food	alert	company's own check	France	France (D), Italy (O)	Listeria monocytogenes (2400 CFU/g) in organic ricotta from Italy	withdrawal from the market	distribution restricted to notifying country	serious
milk and milk products	14/10/2020	2020.4290	food	alert	company's own check	France	Belgium (D), France (O)	Listeria monocytogenes (presence /25g) in pasteurised milk cheese with nuts from France	withdrawal from recipient(s)	distribution to other member countries	serious
milk and milk products	15/10/2020	2020.4337	food	alert	company's own check	Germany	Austria (D), Bulgaria (D), Czech Republic (D), Denmark (D), Finland (D), Germany (D), Italy (D), Lithuania (D), Netherlands (O), Poland (D), Romania (D), Spain (D)	Listeria monocytogenes (1500 CFU/g) in goat cheese from the Netherlands	recall from consumers	distribution to other member countries	serious
milk and milk products	22/10/2020	2020.4474	food	alert	company's own check	Poland	Austria (D), Belgium (D), Bulgaria (D), Czech Republic (D), Denmark (D), Estonia (D), Finland (D), France (D), Germany (D), Greece (D), Hungary (D), INFOSAN, Ireland (D), Italy (D), Luxembourg (D), Netherlands (O), Poland (D), Slovakia (D), Spain (D), Sweden (D), Ukraine, United Kingdom (D)	Listeria monocytogenes (presence /25g) in goat cheese from the Netherlands	withdrawal from recipient(s)	distribution to other member countries	serious
milk and milk products	22/10/2020	2020.4476	food	alert	company's own check	France	Belgium (D), France (O), Germany (D), Italy (D), Netherlands (D), Spain (D), Sweden (D)	Listeria monocytogenes (<10 CFU/g) in pasteurised cow's milk tomette cheese from France	recall from consumers	distribution to other member countries	serious

milk and milk products	30/10/2020	2020.4641	food	information for follow-up	company's own check	Germany	Austria (D), France (D), Germany (D), Italy (D), Luxembourg (D), Netherlands (O)	suspicion of Listeria monocytogenes in organic goat cheese from the Netherlands	recall from consumers	distribution to other member countries	undecided
milk and milk products	30/10/2020	2020.4649	food	alert	company's own check	United Kingdom	Netherlands (O), United Kingdom (D)	suspicion of Listeria monocytogenes in goat's cheese from the Netherlands	recall from consumers	no distribution from notifying country	serious
milk and milk products	20/11/2020	2020.5149	food	alert	company's own check	Germany	France (O), Germany (D)	Listeria monocytogenes in goat's cheese from France	recall from consumers	no distribution from notifying country	serious
milk and milk products	20/11/2020	2020.5167	food	alert	company's own check	Denmark	Austria (D), Denmark (D), France (O), Germany, Italy (D), Luxembourg (D), Norway (D)	Listeria monocytogenes (<10 CFU/g) in brie cheese from France	informing recipient(s)	distribution to other member countries	serious
milk and milk products	16/12/2020	2020.5806	food	alert	company's own check	France	Denmark (D), France (O), Germany (D), Netherlands (D), Sweden (D)	Listeria monocytogenes (<10 CFU/g) in raw milk goat's cheese from France	recall from consumers	distribution to other member countries	undecided
other food product / mixed	05/02/2020	2020.0578	food	alert	company's own check	Netherlands	Belgium (D), Luxembourg (D), Netherlands (O)	Listeria monocytogenes (presence /25g) in chilled cooked garlic shrimps from the Netherlands	public warning - press release	distribution to other member countries	serious
other food product / mixed	06/03/2020	2020.1086	food	alert	company's own check	Netherlands	Germany (O), Netherlands (D), Sweden (D)	Listeria monocytogenes (in 2 out of 5 samples /25g) in chilled smoked vegetarian sausages from Germany	informing authorities	distribution to other member countries	undecided
poultry meat and poultry meat products	09/01/2020	2020.0127	food	alert	company's own check	Switzerland	France (O), Switzerland (D)	Listeria monocytogenes in chilled duck liver mousse and pork	public warning - press release	distribution restricted to notifying country	serious

								and chicken liver mousse with ceps and black mushrooms from France			
poultry meat and poultry meat products	07/02/2020	2020.0605	food	alert	company's own check	Belgium	Belgium (D/O), Luxembourg (D)	Listeria monocytogenes (present /25g) in chilled black pepper chicken meatballs salad from Belgium	recall from consumers	distribution to other member countries	serious
poultry meat and poultry meat products	28/02/2020	2020.0977	food	alert	company's own check	Poland	Germany (D), Poland (O)	Listeria monocytogenes (presence CFU/g) in frozen chicken kebab from Poland	informing recipient(s)	distribution to other member countries	serious
poultry meat and poultry meat products	10/03/2020	2020.1132	food	information for attention	company's own check	France	Belgium (D), France (D/O)	Listeria monocytogenes (>1500 CFU/g) in chilled cooked marinated chicken drumettes from France	recall from consumers	product (presumably) no longer on the market	serious
poultry meat and poultry meat products	16/03/2020	2020.1216	food	alert	company's own check	Germany	France (O), Germany (D)	Listeria monocytogenes in poultry liver cream with mushrooms from France	withdrawal from recipient(s)	distribution restricted to notifying country	serious
poultry meat and poultry meat products	11/05/2020	2020.1958	food	alert	company's own check	France	Belgium, France (O), Netherlands (D)	Listeria monocytogenes (1700 CFU/g) in frozen smoked turkey from France	withdrawal from the market	distribution to other member countries	serious
poultry meat and poultry meat products	03/06/2020	2020.2282	food	alert	company's own check	Belgium	Belgium (D/O), Luxembourg (D)	Listeria monocytogenes (presence /25g) in chilled poultry meatballs from Belgium	withdrawal from the market	distribution to other member countries	serious
poultry meat and poultry	03/07/2020	2020.2730	food	alert	official control on the market	Poland	Austria (D), Germany (D), Ireland (D), Netherlands (D),	Listeria monocytogenes (in 2 out of 5 samples	public warning - press release	distribution to other	serious

meat products							Poland (D/O), United Kingdom (D)	/25g) in chilled chicken hamburger from Poland		member countries	
poultry meat and poultry meat products	26/08/2020	2020.3403	food	information for attention	company's own check	France	France (D/O), Hong Kong (D)	Listeria monocytogenes (85000 CFU/g) in frozen chicken from France	withdrawal from the market	distribution to non-member countries	not serious
poultry meat and poultry meat products	26/08/2020	2020.3414	food	information for attention	border control - consignment released	Ireland	Ireland (D), Thailand (O), United Kingdom	Listeria monocytogenes (present /25g) in frozen cooked chicken from Thailand	no action taken	distribution restricted to notifying country	undecided
poultry meat and poultry meat products	29/09/2020	2020.3439	food	information for attention	official control on the market	Estonia	Estonia (D), Lithuania (O)	Listeria monocytogenes (in 1 out of 5 samples /25g) in chilled hot smoked chicken broiler thighs from Lithuania	no action taken	product (presumably) no longer on the market	serious
poultry meat and poultry meat products	09/09/2020	2020.3679	food	alert	official control on the market	Ireland	Ireland (D/O), United Kingdom (D)	Listeria monocytogenes (in 3 out of 5 samples /25g) in chilled roasted chicken breast pieces from Ireland	recall from consumers	distribution to other member countries	serious
poultry meat and poultry meat products	11/09/2020	2020.3719	food	alert	company's own check	Switzerland	Austria (O), Switzerland (D/O)	Listeria monocytogenes (Serotype 1/2a, 3a /25g) in mixed salad with chicken and egg from Switzerland, with raw material from Austria	public warning - press release	distribution restricted to notifying country	serious
poultry meat and poultry meat products	28/09/2020	2020.3816	food	information for attention	official control on the market	Estonia	Estonia (D), Lithuania (O)	Listeria monocytogenes (presence /25g) in chilled chicken nuggets from Lithuania		distribution restricted to notifying country	undecided

poultry meat and poultry meat products	29/09/2020	2020.3819	food	information for attention	official control on the market	Estonia	Estonia (D), Lithuania (O)	Listeria monocytogenes (in 1 out of 5 samples /25g) in chilled hot smoked spicy chicken tulips from Lithuania		product (presumably) no longer on the market	undecided
poultry meat and poultry meat products	24/09/2020	2020.3904	food	alert	company's own check	Romania	Romania (O), Spain (D), United Kingdom (D)	Listeria monocytogenes (90 CFU/g) in chilled chicken breast parizer from Romania	withdrawal from the market	distribution to other member countries	serious
poultry meat and poultry meat products	25/09/2020	2020.3943	food	alert	company's own check	Belgium	Austria, Belgium (D), Denmark, France, Germany (O), Sweden	Listeria monocytogenes (present /25g) in frozen cooked hen meat from Germany	physical/chemical treatment	distribution restricted to notifying country	serious
poultry meat and poultry meat products	28/09/2020	2020.3959	food	information for follow-up	official control on the market	Estonia	Estonia (D), Lithuania (O)	Listeria monocytogenes (in 5 out of 5 samples /25g) in chilled chicken nuggets from Lithuania	withdrawal from the market	no distribution from notifying country	undecided
poultry meat and poultry meat products	20/10/2020	2020.4417	food	information for attention	official control on the market	Lithuania	Estonia (D), Latvia (D), Lithuania (D/O)	Listeria monocytogenes (< 40 CFU/g) in chilled fried chicken fillet roasts filled with ham and cheese from Lithuania	withdrawal from the market	product (presumably) no longer on the market	serious
poultry meat and poultry meat products	17/11/2020	2020.5070	food	information for attention	company's own check	Netherlands	Belgium (D), Netherlands (O)	Listeria monocytogenes (in 1 out of 5 samples /25g) in chilled sliced smoked chicken fillets from the Netherlands	withdrawal from recipient(s)	product (presumably) no longer on the market	serious
poultry meat and poultry meat products	26/11/2020	2020.5339	food	information for attention	company's own check	France	France (O), Germany (D)	Listeria monocytogenes (>15000 CFU/g) in		product (presumably) no longer on the market	undecided

								chilled chicken legs from France			
prepared dishes and snacks	29/01/2020	2019.4503	food	information for follow-up	company's own check	France	France (D), Poland (O)	Listeria monocytogenes (<10 CFU/g) in fresh cheese and tomato skewers from Poland		distribution restricted to notifying country	undecided
prepared dishes and snacks	11/02/2020	2020.0683	food	alert	company's own check	France	Belgium (D), France (D/O), Luxembourg (D)	Listeria monocytogenes (<10 CFU/g) in chilled smoked salmon salad from France	recall from consumers	distribution to other member countries	serious
prepared dishes and snacks	03/04/2020	2020.1517	food	alert	company's own check	France	Belgium (D), France (O), Luxembourg (D), Switzerland (D)	Listeria monocytogenes (<10 CFU/g) in salad with vegetables, toasts, cream, egg and smoked salmon from France	recall from consumers	distribution to other member countries	serious
prepared dishes and snacks	15/07/2020	2020.2889	food	information for attention	company's own check	Netherlands	Belgium (D), Netherlands (O)	Listeria monocytogenes (between 240 and 540 CFU/ml) in chilled tuna lunch salad from the Netherlands	informing recipient(s)	product (presumably) no longer on the market	serious
prepared dishes and snacks	18/08/2020	2020.3181	food	information for follow-up	company's own check	Finland	Estonia (D), Finland (O)	suspicion of Listeria monocytogenes in pulled oats from Finland	withdrawal from recipient(s)	distribution to other member countries	undecided
prepared dishes and snacks	18/09/2020	2020.3824	food	alert	official control on the market	United Kingdom	Ireland (D), United Kingdom (O)	Listeria monocytogenes (presence /25g) in pasta salad from the United Kingdom	withdrawal from recipient(s)	distribution to other member countries	serious

prepared dishes and snacks	06/11/2020	2020.4820	food	information for attention	company's own check	Austria	Austria (D/O), Slovenia (D)	Listeria monocytogenes (1280 CFU/g) in thai couscous wrap from Austria	public warning - press release	product (presumably) no longer on the market	serious
soups, broths, sauces and condiments	14/12/2020	2020.5728	food	alert	company's own check	Netherlands	Belgium (D/O), Netherlands (D)	Listeria monocytogenes (present /25g) in pesto from Belgium		distribution to other member countries	serious

EIT Food – Making Food Innovation Happen

Knowledge & Innovation Community on Food - http://www.eitfood.eu

This EIT Food activity has received funding from the European Institute of Innovation and Technology (EIT), a body of the European Union, under Horizon2020, the EU Framework Programme for Research and Innovation.

EIT Food is Europe's leading agri-food innovation initiative, with the aim to create a sustainable and future-proof food sector. The initiative is made up of a consortium of key industry players, start-ups, research centres and universities from across Europe. EIT Food aims to collaborate closely with consumers to develop new knowledge and technology-based products and services that will ultimately deliver a healthier and more sustainable lifestyle for all European citizens.