



Original thinking... applied

GLOBAL FOOD INTEGRITY
ISSUES AND EMERGING RISKS

January - March 2018

HOT
SOURCE.





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Dear Reader

Feeding the world – safely

Managing the safe supply of food for the world's fast-growing population is one of the biggest challenges for global society over the next ten years. With the world's resources under huge stress, the need to ensure that all people at all times have access to sufficient, safe, nutritious food to maintain a healthy and active life is receiving urgent attention.

The Food and Agriculture Organisation of the United Nations (FAO) estimates that the world's population will peak at 9.15 billion in 2050 – an increase of 30% on the 2010 population. It estimates that global food production must increase by 70% to keep pace. The compelling need to increase food production presents risks to the maintenance of food safety standards and public health, as well as providing lucrative opportunities for fraudsters.

Food safety authorities and food companies responsible for ensuring the safety and authenticity of foods are faced with an increasingly complex challenge. Globalisation has led to an unprecedented level of interdependence and interconnectivity in global food supply chains. Many food businesses are exposed either directly or indirectly to risks stemming from food safety or food fraud issues all over the world.

Such an intricate set of challenges requires real innovation to ensure consumers, food producers and manufacturers are protected from emerging and potential risks. Fera has been working at the forefront of food safety science for many years, collaborating with governments and industry to develop knowledge, tools and expertise to tackle the multiple threats to food safety worldwide.

In this report, we highlight the latest figures from Q1 2018 in emerging issues and increasing risks from HorizonScan, together with reflecting on some of the findings of Fera-commissioned research into public awareness of food safety issues. By applying our original thinking and technical resources to the task of protecting food supply chains, we have been able to develop advanced tools such as contaminant tracking using whole genome sequencing technology to help protect the public, food businesses and global food supply chains.

The Fera Team



Food Safety: Public Perceptions

In 2017, Fera commissioned research to examine public attitudes to food safety and the levels of awareness of the risks to public health. More than 2,000 people from across the UK were surveyed.

The survey found that most people were unaware of all but the most common and high-profile food safety threats.

Awareness of food safety threats

When respondents were asked to list the food safety threats they were aware of in the UK, 35% were unable to bring any to mind. The most frequently recalled risk was salmonella in eggs or chicken, mentioned by 17% of respondents. Next came food handling storage and hygiene, mentioned by 12% of respondents, followed by E. coli (10%), horsemeat fraud, deliberate tampering of food and genetically modified food (all 6%). Awareness generally was greater among people in the 55 to 64 and 65+ age categories.

When respondents were prompted with a list of threats to food safety, more than 80% said they had heard of E. coli, and 52% were aware of food mislabelling and the impact of pesticides. Other threats that registered high levels of prompted recognition were campylobacter (31%), antimicrobial resistance (20%) and mycotoxins (16%).

Summary of the findings

Overall, the survey found that the range of specific concerns and the threats that were uppermost in people's minds were limited to incidents that had received extensive media coverage. The very broad range of risks to food safety from food fraud, adulteration and contamination were widely acknowledged by respondents.

While improved education may be part of the solution – helping to raise awareness of food safety risks – it's clear that the work of food safety agencies and science organisations in detecting and mitigating food safety threats is essential in protecting the public. With such low awareness levels, it's difficult for consumers to know how to protect themselves, which places the onus more than ever on food growers, producers and manufacturers to ensure their products are safe, authentic and accurately labelled.

Original Thinking Applied To Food Safety

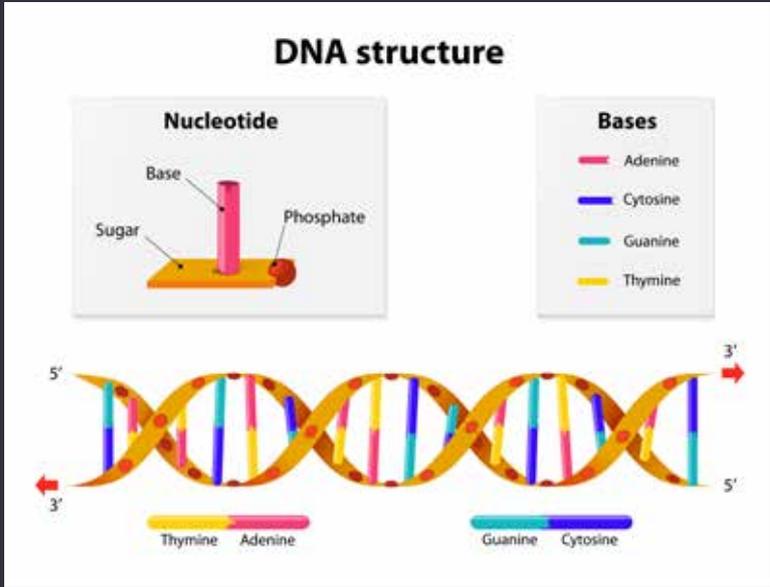
As global efforts to police food supply chains and protect public health intensify, Fera is applying its scientific expertise to support more efficient, effective and reliable food testing and fraud prevention programmes.

Tracking Contaminants: Next Generation Sequencing

New technologies benefit food industry and consumers

Recent advances in rapid, high-throughput DNA sequencing have revolutionised the study of biology and have the capacity to do the same for food safety.

DNA sequencing



- Genetic material in organisms encoded in a chemical polymer
- DNA sequencing reveals the order of base pairs along the DNA strand



Footnote - A molecule of DNA is comprised of a sugar-phosphate backbone, and to these sugars are bonded chemical groups that we call bases. There are four bases, adenine, thymine, guanine and cytosine, or A, T, G and C for short. Each base bonds specifically with one other base, so As only bond with Ts, and Cs only bond with Gs. You can see in the picture that this complementary base pairing allows the formation of the famous double helix of two DNA strands. So when we talk about sequencing, we're actually determining the order of the bases, that is the As, Ts, Cs and Gs, along one of these strands of DNA.

These so-called 'Next Generation Sequencing' (NGS) technologies have a range of applications, including sequencing microbial genomes and identifying microbial communities. The implications for the food industry are significant, and include applications such as:

- Source tracking of bacterial contaminants.
- Identifying spoilage communities.
- Authenticating the origin of foodstuffs.

The application of this technology can help to keep consumers safe and avoid costly recalls, reduce waste by combatting spoilage, and reassure consumers by confirming the authenticity of products.

As the price of sequencing per base continues to go down, and new rapid, portable sequencing platforms are developed, NGS is set to become an increasingly attractive option for the food industry, replacing or augmenting current testing methods.

What is NGS?

Next generation sequencing (NGS) is a series of technologies that allow scientists to generate lots of individual DNA sequences much more cheaply and rapidly than was previously possible. The application of this technology to sequence all of the genetic material in a bacterium is known as whole genome sequencing (WGS). It can generate millions of DNA sequences in a single run and enables whole bacterial genomes to be reconstructed and analysed.

Applying the technology

Fera has been at the forefront of applying this technology since 2008, initially applying it to plant health issues and, since 2013, to foodborne pathogens, working closely with the FSA and USFDA.

Previous molecular epidemiology techniques enabled species of bacteria to be identified and, as techniques developed, to distinguish between different strains of bacteria. For example, they could determine the strain of *listeria* in a food sample. However, WGS gives a far superior level of discrimination. By sequencing the entire genetic content of a bacterium, it's possible to identify fine-level differences between two bacteria.

Using its expertise, Fera developed OriGen, a service that uses WGS to identify the source of bacterial contamination in foods, backed up by tailored support from scientists. OriGen enables food producers and manufacturers to quickly trace the cause of any contamination and avoid expensive and damaging product recalls.

OriGen can help the food industry to manage the risks posed by increasingly global supply chains by tracking bacterial contaminants and locating the source of contamination – it could even pinpoint a single machine or raw ingredient as the root cause.



OriGen

OriGen: how it works

To provide the OriGen service to a food business, Fera will first take samples from raw ingredients, swabs from around the production facility, from workers' clothing, from the finished product and from other relevant potential sources of contamination. The samples are then run through the WGS process to sequence the bacteria, so that related bacteria can be linked to identify sources of contamination. The process can also be applied to bacteria already isolated by the manufacturer or contract lab.



This application of NGS helps food businesses to deal with contamination events quickly and effectively, and can make a major contribution to public health in the UK. The aim of any food business is to tackle these issues as soon as possible, and certainly before they get into the public realm.

By its nature, tracking bacterial contamination is reactive work, since it is triggered by a pathogen being detected or suspected. But as well as responding to individual requests, Fera can also apply this technique to large-scale contamination events, where it is used to test lots of samples from a facility to determine the source of an outbreak.

Following the resolution of a contamination event, WGS can also be applied in a more proactive way to regularly test samples from the same facility, to see if the same type of contamination recurs. In this way, it can be used to test whether cleaning regimes are effective in eliminating the bacteria.

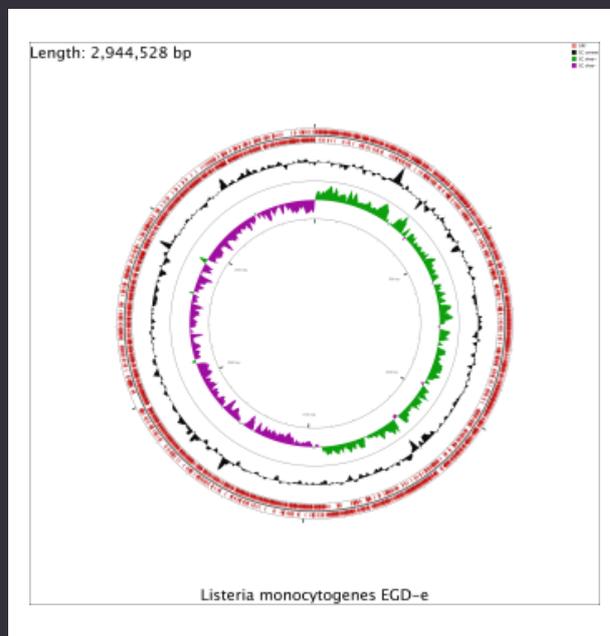
Expanding the scope of WGS

To date, the WGS technique has been applied most frequently to detect listeria, which is a high-concern pathogen to the FSA, particularly in the fast-growing ready-to-eat food sector. However, the technique can be used for any bacterial pathogen, and Fera has been prominent in developing tests for *Listeria*, *Chronobacter*, *Salmonella*, *Campylobacter* and *E.coli* O157 (which requires a Cat 3 lab for handling samples).

Illumina MiSeq

SEQUENCE

Whole Genome Sequencing (WGS)



- Extract total DNA from bacterial isolate. Currently this requires a pure culture.
- Sequence the DNA, and use informatics techniques to assess differences between isolates across their genomes.
- Different bacteria have different sized genomes, so the amount of sequencing required to generate a full or draft genome sequence varies.

Public Health England has now recognised the value of this advanced testing technique and is pushing ahead with developments in the public health arena. Fera, meanwhile, is working closely with the food industry, supporting producers and manufacturers to help tackle bacterial contamination, and identify causes of contamination before foodstuffs reach the consumer.



Case study: Applying WGS to food authenticity

Fera has also begun to use NGS (next generation sequencing) as a technique for proving the authenticity of foods. Its scientists have been working with Defra to trial the technique on Stilton Blue cheese, which has Protected Designation of Origin (PDO) status, and oysters, to see if WGS can be used to prove the origin of these products.

The technique is being used to identify species of bacteria or bacterial communities that are particular to each foodstuff to determine if there is any unique fingerprint that will identify a sample as coming from a particular region. This is a technique known as meta-barcoding.



Fera has taken hundreds of samples of oysters and Stilton Blue cheese and analysed their microbial communities. The aim is to determine whether there are any characteristic microbes from different locations that might be used to authenticate the origin of different oysters or cheeses. The work is ongoing, but results from the cheese tests are particularly promising.

Because cheese is produced in a controlled environment, the product is easier to authenticate. It may even be possible to pin down cheese samples to the specific creameries in which they were made. The hope is that this work will provide an excellent proof of concept for the application of NGS to food authenticity testing.



HORIZONSCAN HIGHLIGHTS: 2018 Q1 Roundup

Emerging issues:

- **05/01/2018**
An emerging issue has been picked up by HorizonScan for Italian durum wheat flour containing high levels of lead.
- **09/01/2018**
An emerging issue for German baby food has been picked up by HorizonScan. For the first time cleaning residues (chlorine based) have been reported in jars of fruit based baby food for infants of 4 months of age or over. The products have so far been recalled in Austria as well as in Germany itself.
- **16/01/2018**
A re-emerging issue has appeared for sesame seeds from India found to not have a health certificate/certified analytical report attached. This issue has been picked up throughout the past year, with RASFF alerts being released by the UK, Poland, and Italy.
- **21/02/2018**
An emerging issue has been picked up by HorizonScan for black tea from Vietnam containing high levels of pesticide residues. Three RASFF alerts have been released by Poland this week in regard to this issue. Vietnam imported over 2,000,000 kg of black tea into the EU in 2017.
- **19/03/2018**
An emerging issue for pumpkin seeds contaminated with *Listeria monocytogenes* has been picked up by HorizonScan. This follows a recall released by the Oregon Food Bank in the USA for the contaminated seeds which were donated to the food bank by a third party supplier which suggests further alerts may be received from other companies who also received the pumpkin seeds.





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HORIZONSCAN HIGHLIGHTS: 2018 Q1 Roundup

Increasing issues:

- An increasing issue has been picked up in HorizonScan concerning pistachios from Iran not having the correct documentation. Reports have been received from the United Kingdom, Latvia and France through the RASFF. (See figure 1)
- An increasing issue has been picked up in HorizonScan concerning raisins from Turkey being contaminated with Ochratoxin A. Reports have been received from the United Kingdom, Bulgaria, Germany, Poland and France through the RASFF. Turkey are a large exporter of dried fruit to the EU. (See figure 2)
- An increasing issue has been picked up in HorizonScan concerning pistachios (in -shell and shelled) from the USA contaminated with aflatoxins. Reports have been received from the United Kingdom, the Netherlands, Italy, Germany and Belgium through the RASFF. The USA is a large exporter of pistachios to the EU, having imported 1,533,000kg of shelled pistachios and 35,796,000kg of in shell pistachios into the EU in 2016. (See figure 3)
- An increasing issue has been picked up by HorizonScan for salmon fillets from Chile which were found to contain high levels of vet drug residues. Reports have been received from Germany, France and Spain. (See figure 4)
- An increasing issue has been picked up by HorizonScan concerning high levels of hydrogen cyanide in apricot kernels. Recalls have been issued by several companies within the Netherlands, Belgium and Slovenia, as well as RASFF reports also having been published. The country of origin is not clear at this point in time. (See figure 5)
- An increasing issue has been picked up by HorizonScan concerning squid from China imported illegally and from an unauthorised operator. Notifications have been received from Portugal regarding this issue, which was originally reported (several times) in February of last year by Spain. (See figure 6)
- An increasing issue has been picked up in HorizonScan for sesame seeds originating from Nigeria and contaminated with Salmonella. In April 2017 HorizonScan issued a highlight for Nigerian sesame seeds linked to a European outbreak of a new Salmonella serotype. (See figure 7)
- An increasing issue has been picked up in HorizonScan for soya bean feed materials originating from Germany and contaminated with Salmonella. RASFF alerts have been received from Finland and Germany itself. (See figure 8)
- An increasing issue has been picked up by HorizonScan for oysters from France contaminated with Norovirus. Since the HorizonScan highlight of 15th of February 2018 which highlighted a RASFF alert in this regard, 6 more alerts (RASFF and official recalls) have been received from 2 further countries not listed in the original RASFF alert (China (Hong Kong) and Finland) and Italy. (See figure 9)



FIGURE 1

Issue	Date	Notifying Country
absence of Common Entry Document (CED) for pistachio nuts from Iran	03 Jan 2018	United Kingdom
absence of health certificate(s) and absence of certified analytical report for pistachio powder from Iran	26 Apr 2017	France

FIGURE 6

Issue	Date	Notifying Country
attempt to illegally import and unauthorised operator for frozen shortfin squid (<i>Illex argentinus</i>) from China	23 Feb 2018	Portugal
illegal import of and unauthorised operator (freezing vessel) for frozen squid (<i>Dosidicus gigas</i>) from China	16 Feb 2017	Spain

FIGURE 2

Issue	Date	Notifying Country
ochratoxin A (15.88 µg/kg - ppb) in raisins from Turkey	12 Mar 2018	Poland
ochratoxin A (16.6 µg/kg - ppb) in raisins from Turkey	18 Sep 2017	Germany

FIGURE 7

Issue	Date	Notifying Country
Salmonella (presence /25g) in sesame seeds from Nigeria	21 Mar 2018	Greece
Salmonella enterica subsp. salamae (II) (35:m,t;- /25g) in sesame seeds from Nigeria	07 Apr 2017	Greece

FIGURE 3

Issue	Date	Notifying Country
aflatoxins (B1 = 62.4; Tot. = 65.7 µg/kg - ppb) in pistachios from the United States	29 Mar 2018	Italy
aflatoxins (B1 = 9.5; Tot. = 10 µg/kg - ppb) in pistachio nuts with shell from The United States	16 May 2017	Germany

FIGURE 8

Issue	Date	Notifying Country
Salmonella (presence /25g) in soybean meal from Germany	20 Mar 2018	Germany
Salmonella (present /25g) in soybean cake from Germany	02 Oct 2017	Germany

FIGURE 4

Issue	Date	Notifying Country
residue level above MRL for oxytetracycline (between 32.6 till 112.63 µg/kg - ppb) in frozen Atlantic salmon fillets of aquaculture origin from Chile	15 Jan 2018	Germany
residue level above MRL for oxytetracycline in frozen Atlantic salmon fillets from Chile, via Italy	05 Sep 2017	Germany

FIGURE 9

Issue	Date	Notifying Country
norovirus in live oysters (<i>Crassostrea gigas</i>) from France, packaged in Italy	28 Mar 2018	Italy
norovirus (GII) in oysters mussels from France	06 Apr 2017	Italy

FIGURE 5

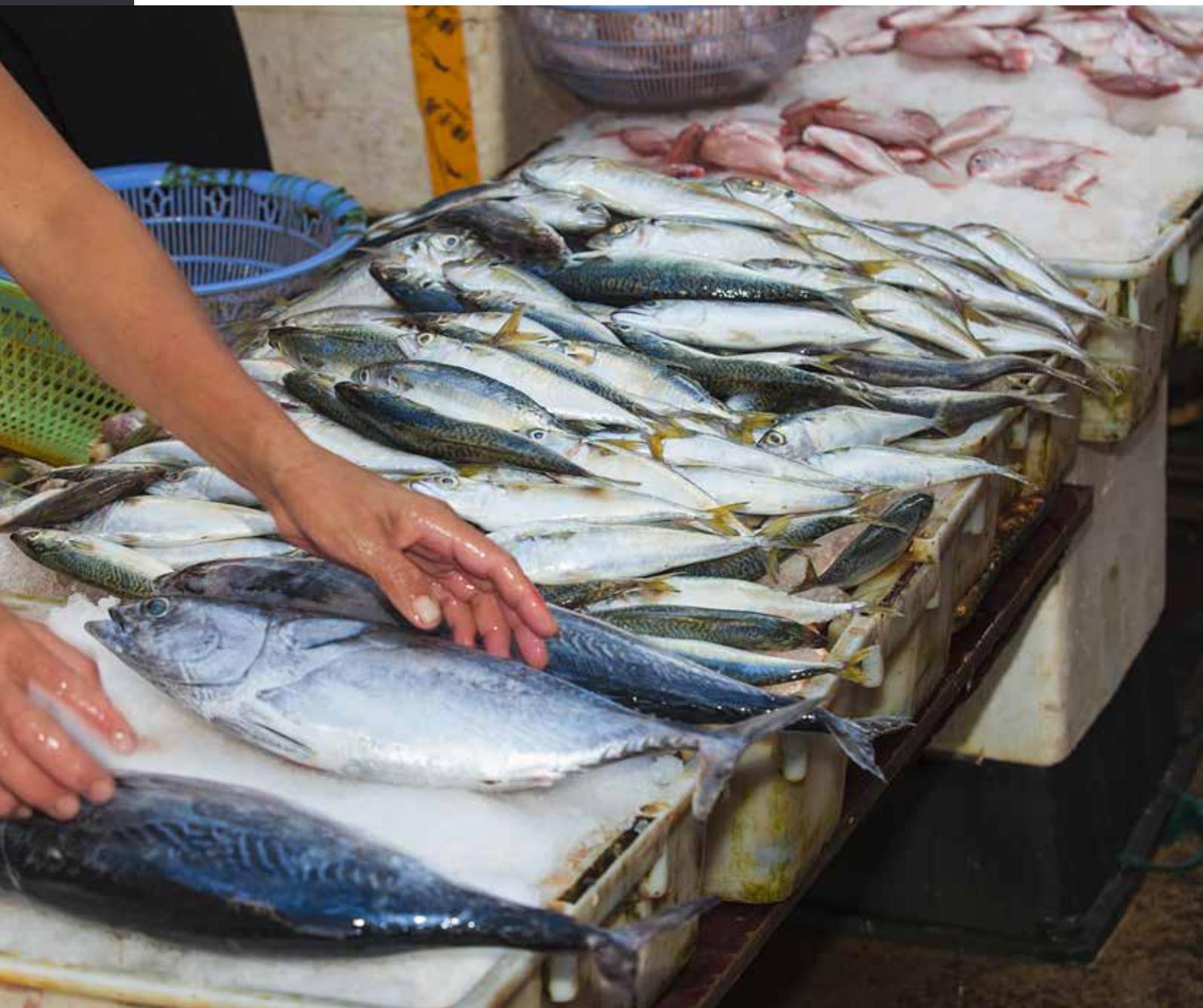
Issue	Date	Notifying Country
Bitter apricot kernels may contain high levels of cyanide	20 Mar 2018	Hungary
Apricot kernels recalled due to high levels of hydrocyanic acid	17 Oct 2017	Slovenia

(Please note that not all the reports concerning these particular issues are displayed in the tables, they are just the first and the last report being encountered over the 12 months period).

Food fraud issues:

- 24,178 kg of liquid egg products made by CJ-Taian Co in Taiwan were seized after it was discovered expired eggs had been mixed with fresh eggs.
- Following an investigation by the Civil Guard, a framework of forgery of agricultural documents for the sale of citrus in Alicante and Valencia in Spain has been halted with 23 people detained and another 22 investigated. 400 falsified documents and agricultural traceability (DATA) documents were found to have been used to sell over 424 tons of oranges.
- A study carried out by Italian and Chinese researchers has found almost 60% of a popular roasted fish fillet in China is fraudulently mislabelled. 58% of Xue Yu fish fillet products sampled were found to be mislabelled according to a sampling study using DNA bar coding
- The results of a survey carried out in 2016 by France's Directorate-General for Competition, Consumer Affairs and Fraud Control (DGCCRF) have been released and show that almost 25% of frozen poultry samples contained added water levels above EU limits.
- 7,488 bottles of fake Moutai liquor have been seized and destroyed by police in the Guizhou Province of China. There are suggestions that this is due to short supply which has caused some retailers to put up the prices of the liquor, making counterfeiting the product appear lucrative.
- A South African antidumping organisation has raised concerns over 'serious health risks' posed by Brazilian chicken entering the country. They have claimed that retailers may be stocking meat that could have been thawed, reworked and refrozen before being sold in supermarkets, meaning the meat may be contaminated with high levels of dangerous bacteria. They have also raised concerns that it is impossible to know the country of origin of frozen chicken from the EU.
- 13 defendants in Shanghai have been convicted of selling nearly 1,100,000 pieces of counterfeit imported fruit. Fruit was labelled with fake trademarked logos from well-known brands from around the world so that the produce could be marked up and sold for as much as double the original price. The counterfeit products were sold in wholesale markets as well as online over an unspecified period of time.
- 860 litres of spurious milk were seized by police in an Indian village. It was found that the milk was being made by mixing milk powder, palmolein oil and soya bean oil in water and then extracting the fat which was then passed through a grinder to produce the 'milk'.
- Authorities in Spain have issued a preventative seizure order against a cooperative found to be selling fennel, potatoes, celery, carrots and lemons falsely labelled as "organic." 467 tonnes of falsely labelled produce was found to have been sold by the cooperative.
- The Rice Exporters Association of Pakistan (REAP) has raised concerns that Indian companies are re-branding Indian rice as Pakistani rice in order to meet their contractual obligations for exporting rice to Indonesia. Countries exporting rice to Indonesia are required to fulfil orders in 30 days and REAP are accusing some Indian companies are approaching Pakistani exporters to procure their rice and are then labelling it as Indian rice to meet the 30-day deadline.
- Inspectors from the Dutch Food and Consumer Product Safety Authority (NVWA) and the Dutch Control Authority for Eggs (NCAE) found that an egg wholesaler has been selling French battery quail eggs as Dutch free-range quail eggs. During the inspection regulators found the company had not bought Dutch quail eggs since February 2017.





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STATISTICS

Global food integrity issues reported on HorizonScan



KEY

'%' relates to the number of issues concerning that commodity in its group, for example 28.4% of all issues concerning nuts, nut products and seeds involved pistachios.

'Main issues' reflects the majority of issues reported for that commodity, but does not include every minor issue, for example, most reported issues concerning chicken meat were either the presence of *Salmonella*, *Campylobacter* or *Listeria*.

'Issues' relates to food recalls, border rejections and other such notifications at a global level collated from over 90 official government and other additional reliable sources around the world.

For further information or free trial on HorizonScan, contact **Amy Nicklin** at Fera:

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To organise a visit or webinar demonstration, contact **Barry Hilton** at Fera:

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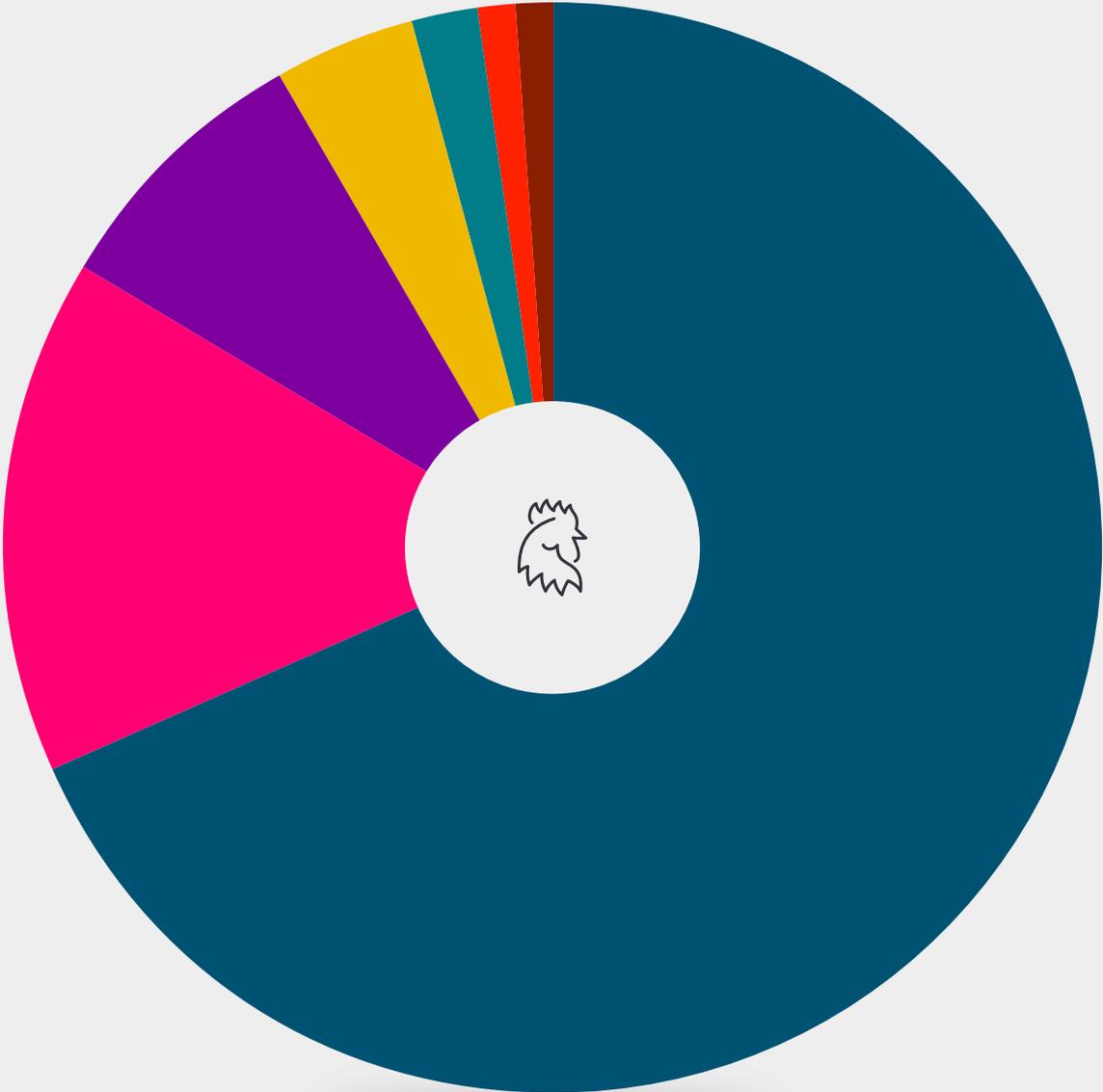
	Quarter change from Q4 2017	Annual change from Q1 2017
 <p>Poultry meat and poultry products</p>	 36.4%	 11.4%
 <p>Seafood</p>	 24.6%	 18.5%
 <p>Milk & dairy products</p>	 12.8%	 5.1%
 <p>Meat and meat products (excluding poultry)</p>	 18.1%	 1.5%
 <p>Herbs & spices</p>	 1.4%	 9.9%
 <p>Fruit & vegetables</p>	 12.8%	 6.8%
 <p>Nuts, nut products and seeds</p>	 23.1%	 48.5%

STATISTICS

Poultry meat and poultry products

Main issues reported
during Q1 2018





Total of 98 issues

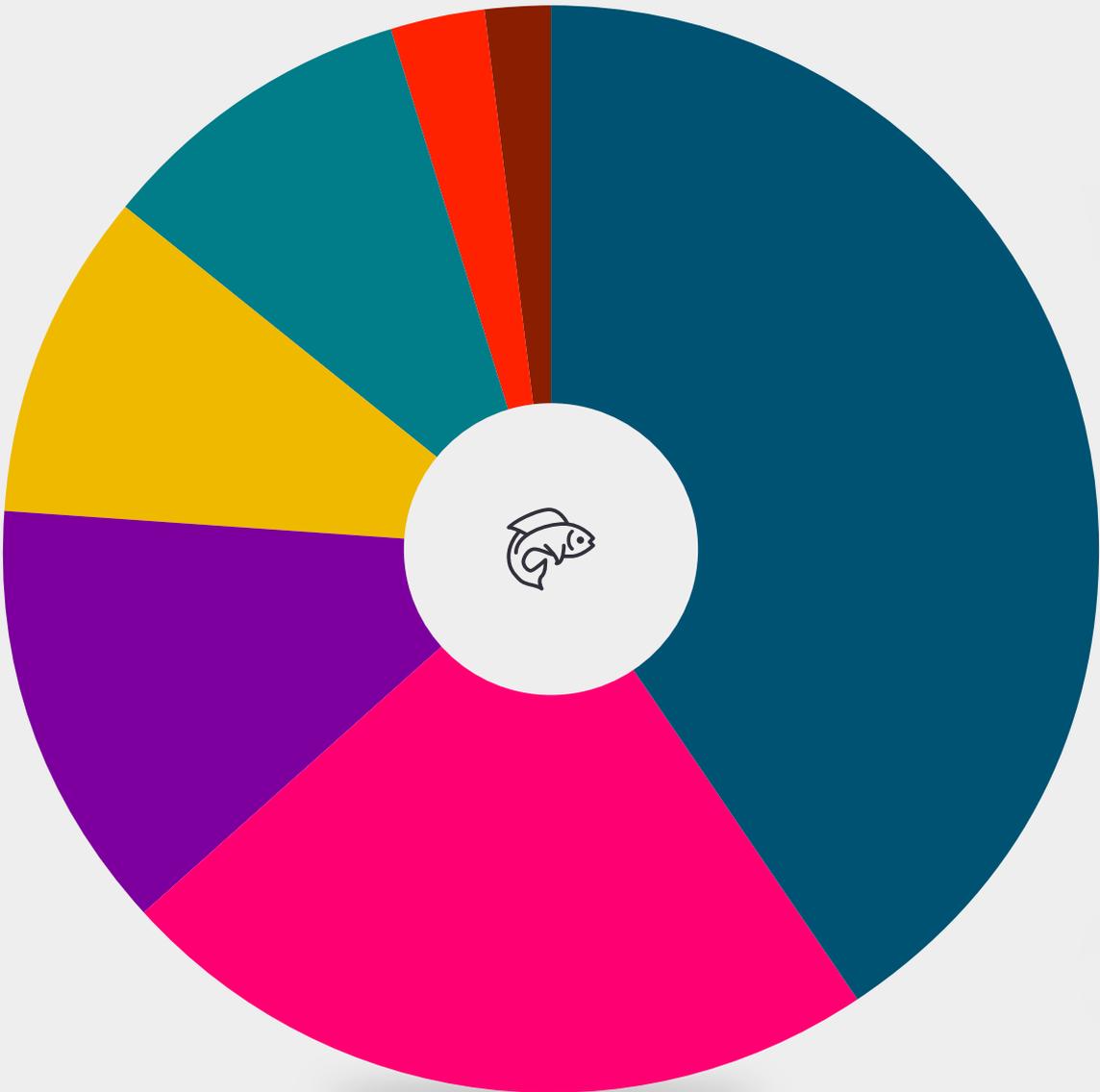
Key	Commodity	%	Main issues
	Meat - chicken	68.4	Salmonella
	Meat products (pate, burgers etc)	15.3	Undeclared eggs or Salmonella
	Eggs	8.2	Salmonella or Pesticides
	Poultry meat products - sausages	4.1	Undeclared allergens or Salmonella
	Eggs (dried/powdered)	2	Undeclared milk or Salmonella
	Offal - chicken	1	Salmonella
	Meat, minced, ground - chicken	1	Salmonella

STATISTICS

Seafood

Main issues reported
during Q1 2018





Total of 172 issues

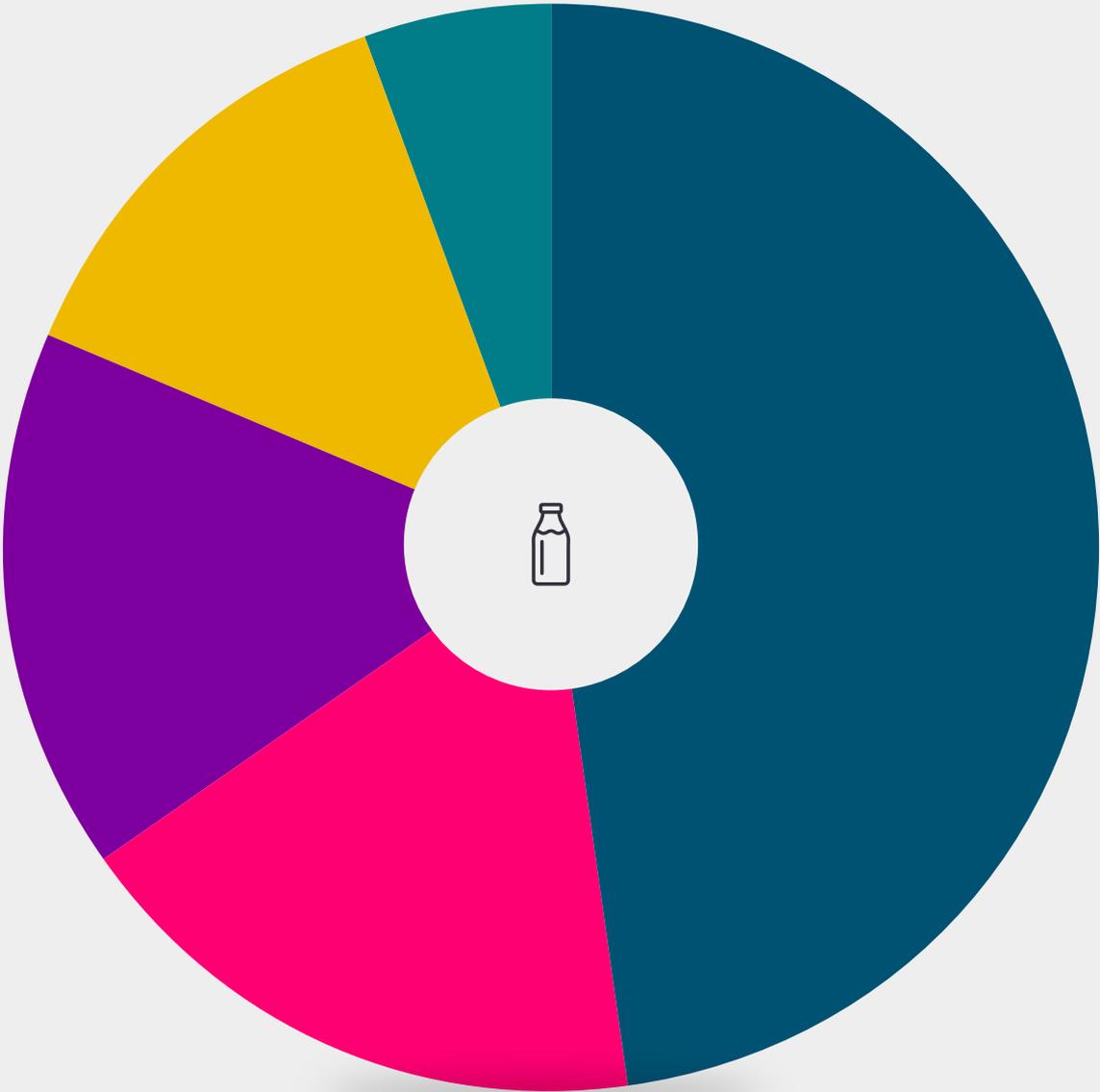
Key	Commodity	%	Main issues
	Fish - fresh/frozen	40.7	Mercury or nematodes
	Bivalve molluscs (mussels etc.)	22.7	Norovirus or <i>E. coli</i>
	Fish – smoked/cured/dried	12.8	<i>Clostridium botulinum</i> or other processing issues
	Crustaceans (crab, shrimps etc.)	9.9	Veterinary drugs
	Cephalopods (octopus, squid etc.)	9.3	Cadmium
	Other sea food	2.9	<i>Clostridium botulinum</i>
	Seaweed, algae, carrageenan	1.7	<i>Salmonella</i> , foreign bodies or Arsenic

STATISTICS

Milk & dairy products

Main issues reported during Q1 2018





Total of 83 issues

Key	Commodity	%	Main issues
	Milk products – cheese	43.4	Listeria, Salmonella or foreign bodies
	Milk products - ice-cream etc.	15.7	Colours or undeclared allergens
	Milk – bovine (cow)	14.5	Campylobacter
	Milk products – yoghurt	12	Foreign bodies or microbiological contaminants
	Milk products - butter and ghee	4.8	E. coli or Listeria

Milk & dairy

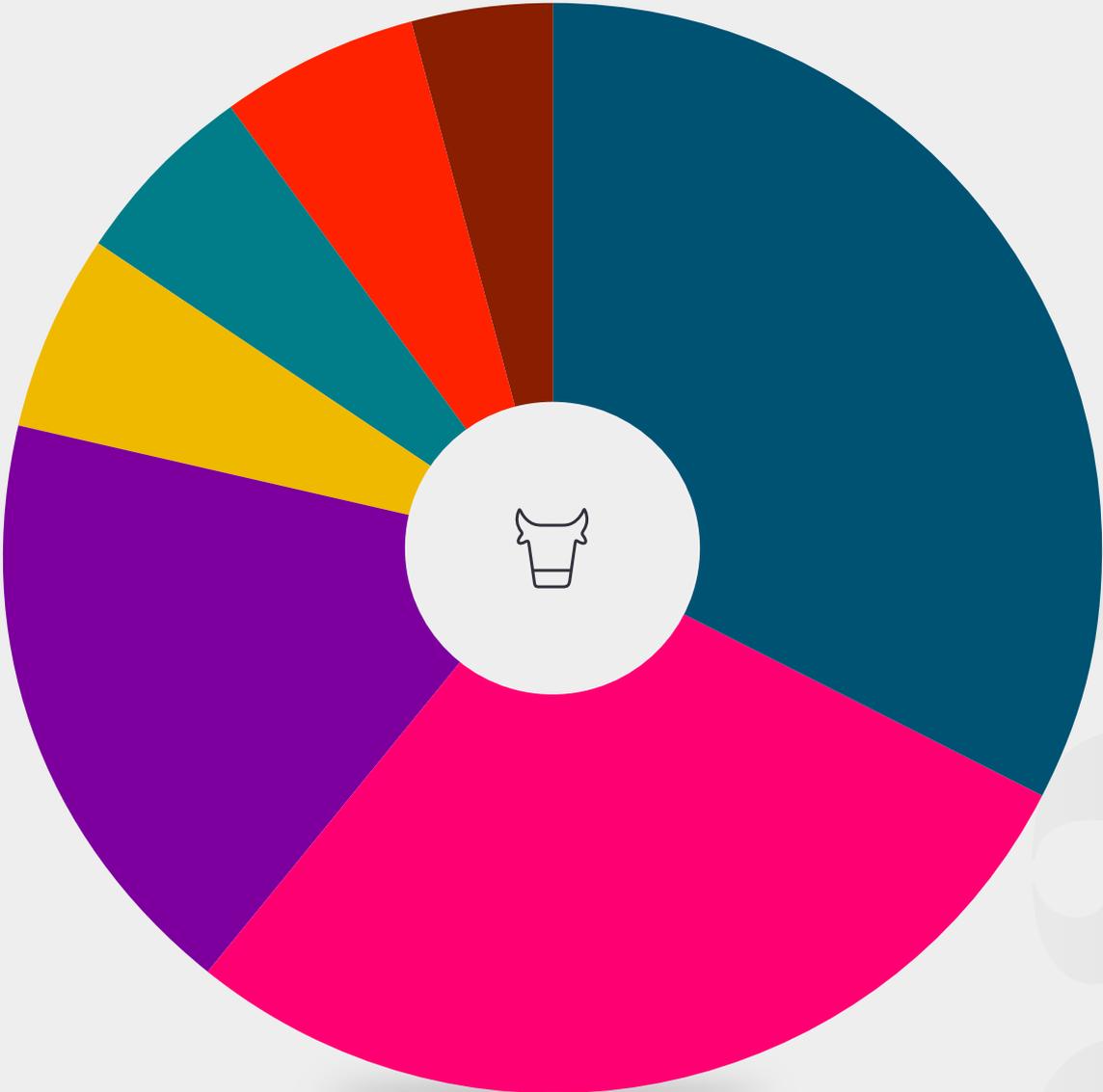
STATISTICS

Meat and meat products

(other than poultry)

Main issues reported during Q1 2018





Total of 137 issues

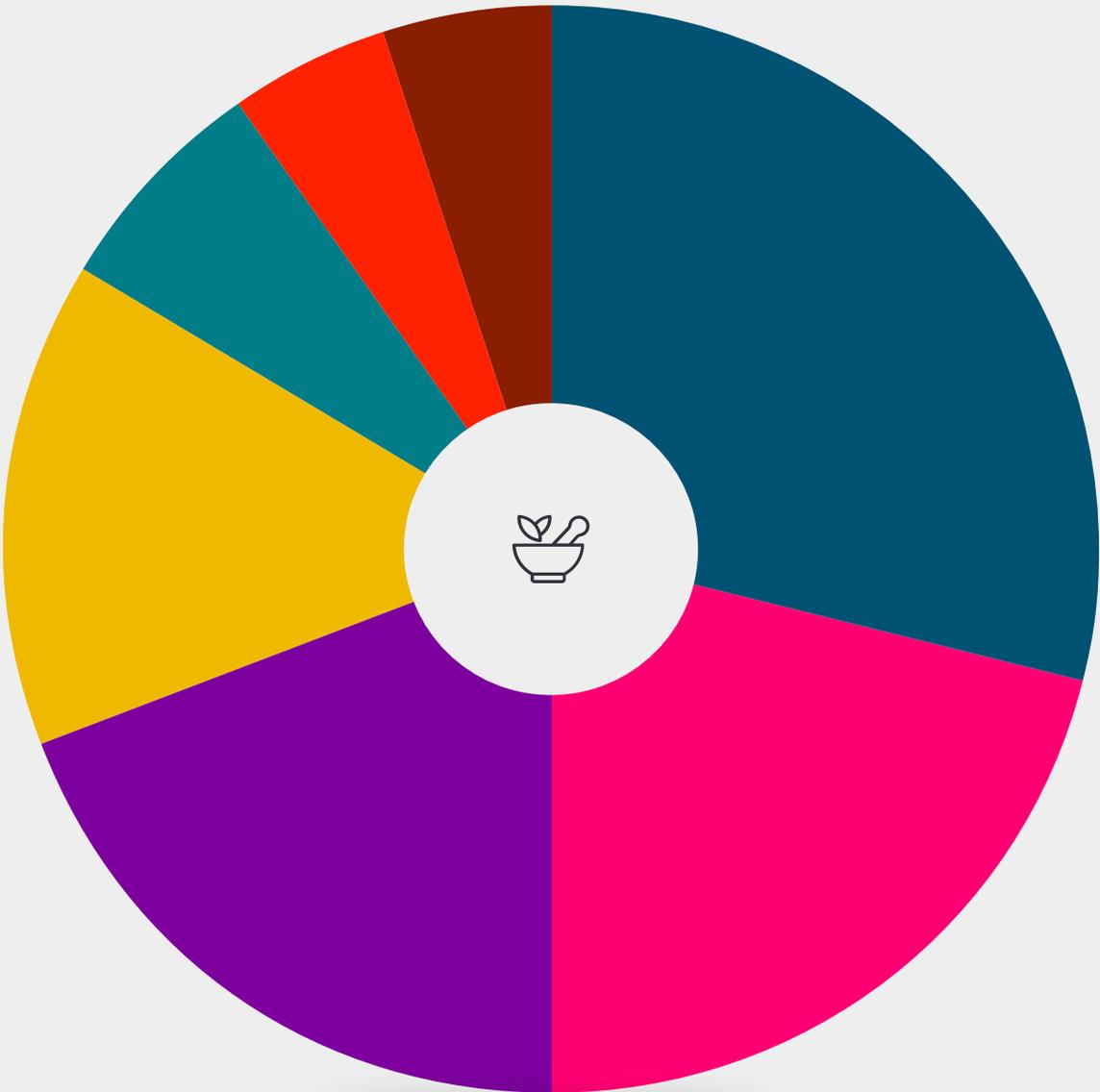
Key	Commodity	%	Main issues
	Meat products – sausages	29.2	Foreign bodies, <i>Salmonella</i> or <i>Listeria</i>
	Meat products – preparations	25.2	<i>Salmonella</i> or <i>Listeria</i>
	Meat - bovine (beef, veal, cow)	16.1	<i>E. coli</i> , <i>Salmonella</i> or expiry date changes
	Minced meat - (beef, veal, cow)	5.1	<i>E. coli</i>
	Meat – equidae (horse)	5.1	Veterinary drugs or adulteration
	Meat - porcine (pork, pig)	5.1	<i>Salmonella</i>
	Meat products - pork hams	3.6	<i>Listeria</i>

STATISTICS

Herbs & spices

Main issues reported
during Q1 2018





Total of 73 issues

Key	Commodity	%	Main issues
	Spice mixtures & curry powder	24.7	Undeclared sulphite, Aflatoxins or colours
	Coriander leaves (cilantro)	17.8	Pesticides
	Pepper, black, pink and white	16.4	<i>Salmonella</i>
	Paprika and chilli powder	12.3	Aflatoxins, pesticides or <i>Salmonella</i>
	Nutmeg whole and ground	5.5	Ochratoxin A
	Cardamom	4.1	<i>Salmonella</i>
	Cumin seed and ground (jeera)	4.1	Pesticides and tropane alkaloids

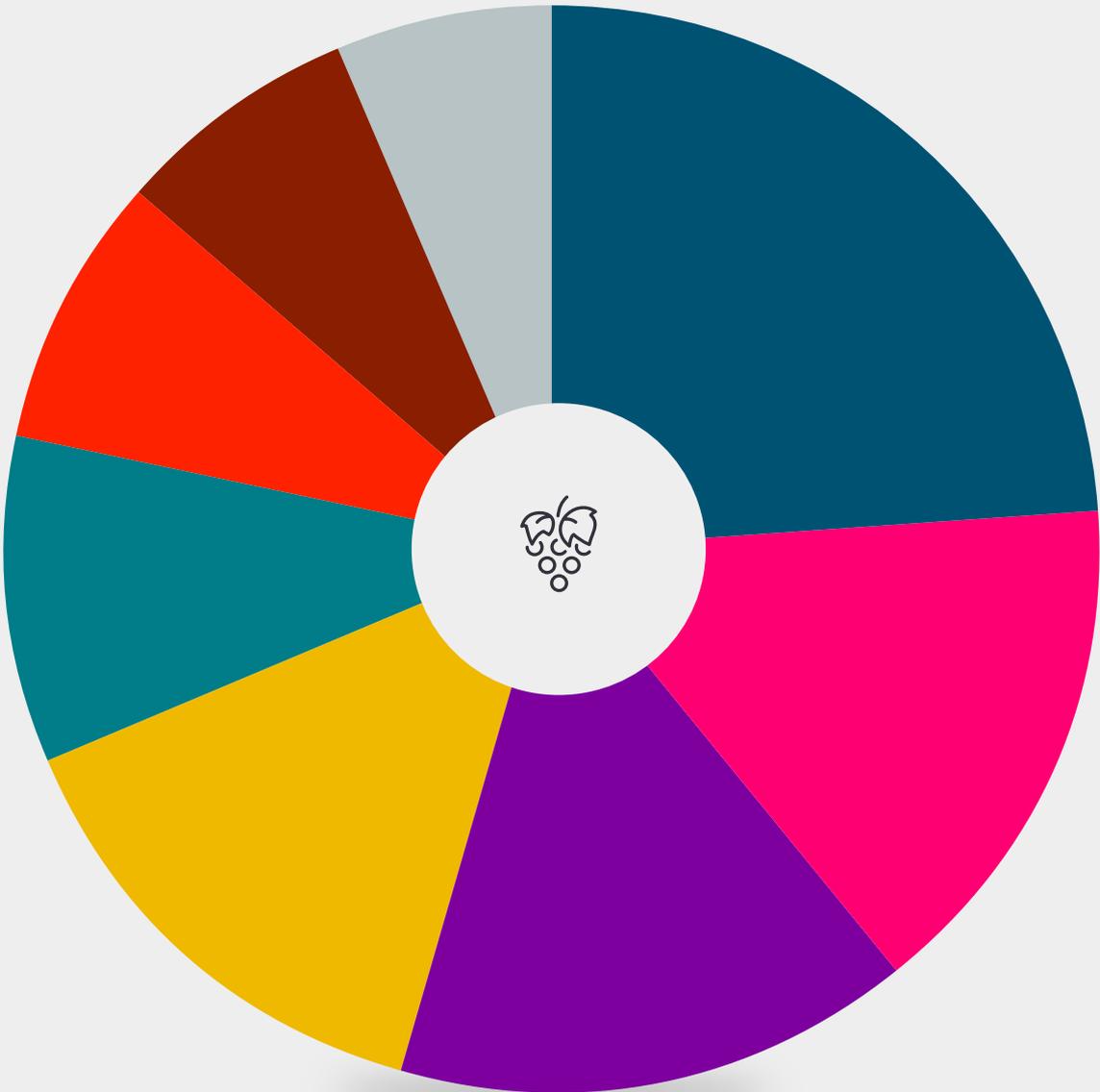
Herbs & Spices

STATISTICS

Fruit & vegetables

Main issues reported
during Q1 2018





Total of 259 issues

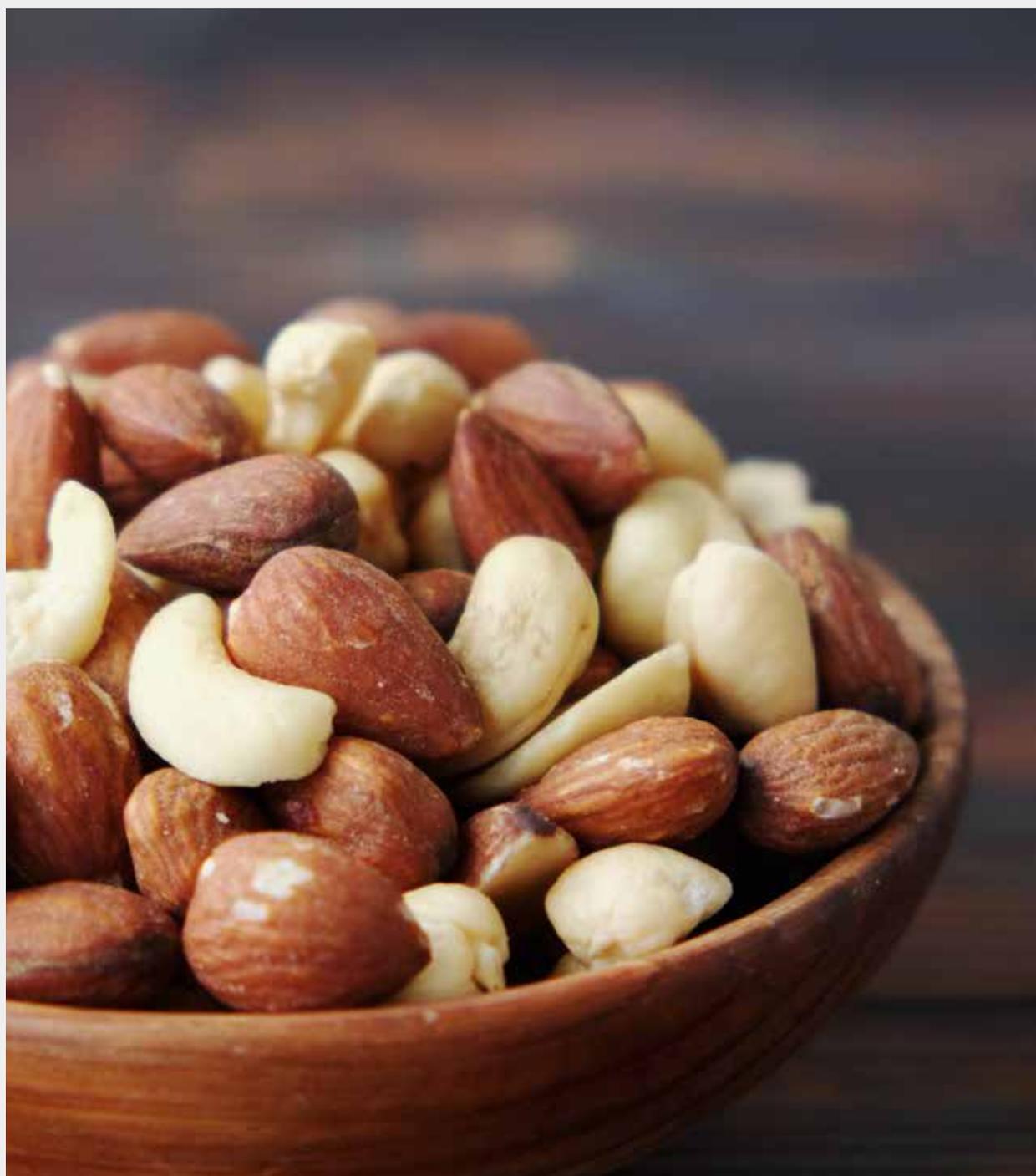
Key	Commodity	%	Main issues
	Figs – dried	10.4	Aflatoxins, Ochratoxin A
	Peppers (sweet or bell)	6.6	Pesticides
	Apricots – dried	6.6	Sulphur dioxide and sulphites (E220-4, E226-8)
	Chilli peppers - fresh or dried	6.2	Pesticides
	Vine fruits – raisins	4.2	Ochratoxin A
	Apples – fresh or dried	3.5	Pesticides
	Peas with pods (snap, snow)	3.1	Pesticides
	Nopales (cactus pads)	2.7	Pesticides

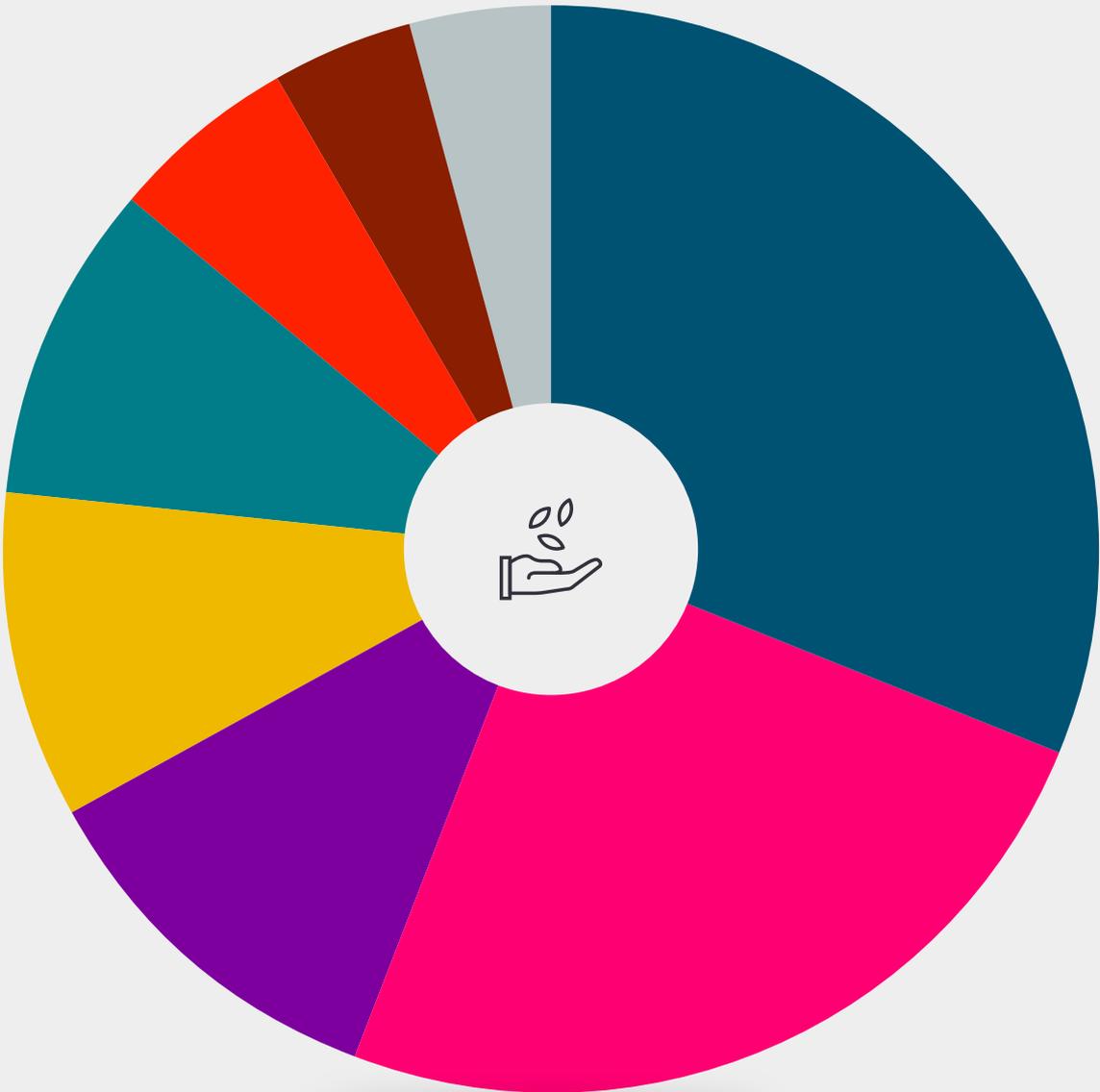
Fruit & vegetables

STATISTICS

Nuts, nut products and seeds

Main issues reported during Q1 2018





Total of 144 issues

Key	Commodity	%	Main issues
●	Pistachios	27.1	Aflatoxins
●	Hazelnuts	21.5	Aflatoxins
●	Coconut - desiccated, dried, flour	9.7	<i>Salmonella</i>
●	Almonds including ground almonds	8.3	Aflatoxins
●	Apricot kernels	8.3	Hydrocyanic acid
●	Other seeds	4.9	<i>Salmonella</i>
●	Coconut juice, milk, cream or water	3.5	Undeclared milk
●	Walnuts	3.5	Organic contaminants

HORIZONSCAN

Global Food Integrity and Risk System

The BRC Global Standard for Food Safety now focuses more on the transparency of the supply chain.

HorizonScan can help you keep ahead of the game by daily monitoring of emerging, new and novel issues in the commodities you use, wherever you might source them.

The system can also aid with the data needed to complete your vulnerability assessments for BRC in the prevention of food fraud from adulteration, substitution, fraudulent documentation to expiry date changes, production in unapproved premises, production with inspection and unsuitable means of transport.

For supply chain managers with multiple ingredient responsibilities and complex international supply chains, or companies looking for new supply options, this system enables you to conduct top line investigations and be alerted to issues very quickly.

With a global database of raw material and commodity issues across all food integrity areas running from 1999, HorizonScan can help put your mind at rest. Whether you need to illustrate proactive monitoring of supply chain issues, be it fraud and authenticity concerns, pesticide or veterinary drug residues, environmental and other contaminants, microbiological problems or allergens.

- Regular email alerts related specifically to your commodity interests so no need to look every day if time is of the essence
- Searchable summary of all problems in individual commodities at an international level
- Official sites of 63 countries with over 90 independent sources scanned daily
- Links to original data sources
- Historical database of known supplier problems
- Detailed breakdown of fraud and authenticity issues pre-dating horsegate by several years

Risk prioritisation for:

- Pesticides residues
- Veterinary drug residues
- Mycotoxin incidence
- Microbiological incidence
- Unlabelled allergens

International coverage

HorizonScan sources recall, alert and food integrity information at a global level on a daily basis. Reports from major food importing countries and others are all monitored.

Sector coverage

HorizonScan provides information to assist with hazard and risk assessments across all food sectors from around the world.

Issues

HorizonScan provides information on all the issues that may concern you including:

- Fraud
- Residues (pesticides & veterinary drugs)
- Mycotoxins & natural toxicants
- Heavy metals & environmental contaminants
- Processing contaminants
- Microbiological issues
- Undeclared allergens
- Food additives & colours
- Infestation & foreign bodies
- Including emerging and increasing issues

Flexible Search

HorizonScan's modular structure allows you to search for the areas that interest you, either at the individual commodity level or for specific residue or contaminant issues.

Supplier Check

HorizonScan allows you to check individual companies for previous commodity-specific references to food integrity issues in their supply chain.

Up-to-date information

All traded food and commodities are tracked, with data of food integrity issues from 1999 to today. Information on produce & exports from 183 countries, typically with 30 new issues added daily.

KEY FEATURES & BENEFITS

-  Flexible search
-  Supplier check
-  Daily global coverage
-  Information bulletins
-  Email alerts
-  Risk prioritisation

**FREE TRIAL
AVAILABLE**

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made by Fera,
supporting the
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FC24

FOOD CONTAMINANTS EU Food Contaminants Regulations and Alerts

Spotting risks in the food chain is a daily challenge faced by growers, importers, processors and retailers. It is a task made all the more difficult by having to wade through endless regulations and other data sources to find the parts that might be applicable to you. FC24 changes all that.

FC24 is a regularly updated, comprehensive guide to EU food contaminants legislation and residue limits. It is designed to meet the needs of food industry professionals connected with:

- Food production
- Own label food retail
- Importing produce and food stuffs into the EU
- Food testing
- National regulatory standards for export to the EU
- Food produce and processing for export to the EU

Flexible Search

FC24 has been designed to provide simple, intuitive search options allowing you to undertake single or multiple item searches with equal ease. Search by:

- Commodity
- Contaminant
- Country of origin
- Recipe picker

Where appropriate, search results contain links to corresponding EU legislation for sampling protocols and analytical techniques so you can quickly access further information. Links are also made via country of origin and commodity to any provenance concerns which may arise through the protected designation of origin (PDO), protected geographic indication (PGI) or traditional speciality guaranteed (TSG) listings.

Recipe Picker

The recipe picker allows you to select all the ingredients you may be processing to make an existing or new product. You can then find the minimum levels permissible for any contaminants that could be present in the selected recipe ingredients, with the option to display all levels if required.

Information Bulletin

An automatic, free weekly email bulletin service informs you of any new or changing legislation affecting the data in FC24.





FC24 pulls together relevant information from across the EU relating to food contaminants and residues, including metals, nitrates, veterinary drugs, pesticides and dioxins





HOT SOURCE.

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Original thinking... applied