

Effective risk communication for the food industry

The importance of effective risk communication in the food industry is outlined by **Frank O’Sullivan MVB MSc, large animal editor, *Veterinary Ireland Journal*; and Cillian O’Sullivan BA MSc, organisational psychology graduate**

The veterinary profession is immersed in risk communication on a daily basis. In the small animal consulting rooms, vets advise pet owners on the risks to their pets from infectious disease, obesity, developing gum disease or arthritis in older age. On the farms, herd-health planning is all about effective communication of herd risks so that the vet and farmer can take steps to mitigate these risks. In government, veterinary epidemiologists use their understanding of statistics and the complex food chain to anticipate, communicate and mitigate risks to assist the various stakeholders including consumers, EU commission and political decision-makers. The food industry has become part of a global, complex food chain, where risk communication strategies may make or break their future. Vets have the potential to play a positive risk-communication role in these companies.

RISK COMMUNICATION: A KEY COMPONENT OF RISK ANALYSIS?

Risk analysis is defined for the purposes of the Codex Alimentarius (a collection of standards, guidelines and codes of practice adopted by the Codex Alimentarius Commission) as “a process consisting of three components: risk management, risk assessment, and risk communication” (see Figure 1).

Risk communication is a necessary skill for all food companies and governments and is defined as: “the real-time exchange of information, advice and opinions between experts, officials and people who face a threat to their wellbeing, to enable informed decision-making and to adopt protective behaviours.” It is a core public-health intervention.

The European Food Safety Authority (EFSA) are the risk assessors for the EU with a role in communicating their findings to policymakers inside and outside the EU, as well as various stakeholders, risk managers (including political

decision makers) and of course the consumer (see Figure 2). Communicating on risks associated with the food chain is a key part of EFSA’s mandate. By communicating on risks in an open and transparent way based on the advice of its scientific expert panels, EFSA contributes to improving food safety in Europe and to building public confidence in the way risk is assessed.

WHAT IS THE VALUE OF EFFECTIVE RISK COMMUNICATION?

The intention of effective risk communication is to share knowledge and understanding about potential risks in a manner that helps the industry and consumer make well-informed decisions. Scientists, health professionals, government officials, industry representatives, and others who communicate with consumers about food-safety risks, may struggle to understand why people make the decisions they do.

The messages delivered not only have to be understood by specialist audiences, such as policymakers, the scientific community and industry but also, on a broader level, to be made relevant to the 500 million consumers of the EU. It is essential that these groups have confidence in the decision-making processes underpinning food law, its scientific basis and the structures and independence of the institutions protecting health and other interests.

THE PUBLIC VERSUS THE SCIENTIFIC PERCEPTION OF RISK

Scientific experts and the public have different ways of assessing risk and different perceptions of risk. The reality is that consumers do not think about risk in the same way that experts think about risk. Human beings filter risk information through a variety of lenses that affect what they hear, how they process and come to understand the information, what they conclude, and what they actually do. For the consumer, risk is highly subjective. Risk communication rises to the challenge of bridging this divide between expert analysis of the risk equation on one side and public reaction and action on the other.

The risks that kill people and the risks that alarm them are often completely different. According to statistics, there is virtually no correlation between the ranking of hazards on expected annual mortality and the ranking of the same hazards by how upsetting they are. Risk communication is a scientifically-based discipline that confronts this dilemma. Where data indicates that a hazard is not serious, yet the public is near panic, it can be used to calm people down; for this kind of situation, its goal is to provide

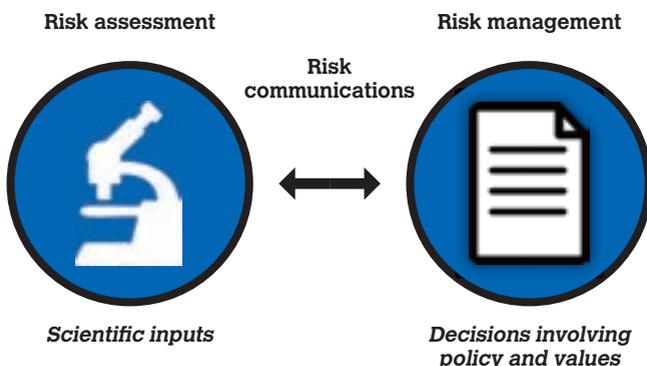


Figure 1: Generic components of risk analysis.

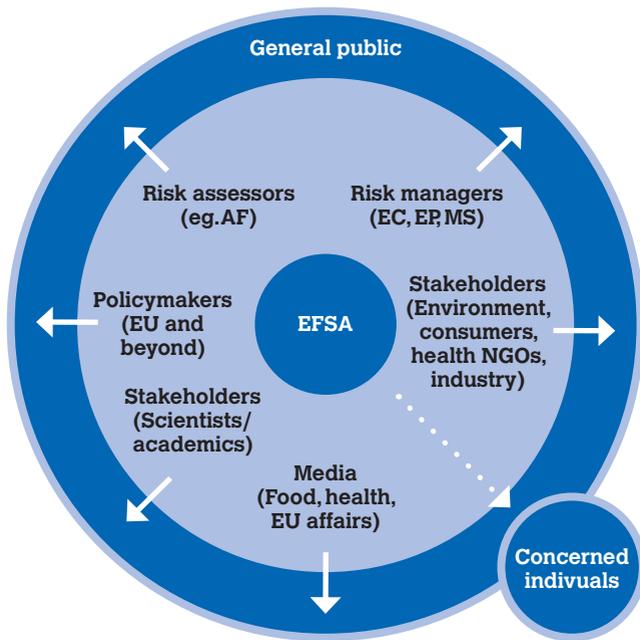


Figure 2: EFSA communication.

reassurance. But, it can also help generate a sense of urgency where data indicates that the hazard is serious, yet the public response is one of apathy.

Across the EU, different countries also have varying food-safety worries. The Eurobarometer (an EU initiative, where surveys are conducted with approximately 1,000 interviews per country and reports are published twice a year) has carried out research based on what are the top consumer concerns in the different geographical divides. It shows that consumers tend to be more worried about chemical rather than biological risks (see Figure 3)

As can be seen in Figure 3, the welfare of farmed animals is the top concern in northern European countries. Austria's main concern are technologies around genetically-modified organisms (GMO).

With such diversity, it is not possible for EFSA to put out one simple message and expect to be understood by 500 European consumers.

REPUTATIONAL RISK

CEOs and board members routinely list 'reputation' as one of their companies most valuable assets. Reputational risk damage is ranked as the number one non-financial risk to companies. These developments are particularly pressing in the global food sector, where maintaining consumer trust is essential for continued business success. There are many challenges to food companies, including food safety, concerns over ingredients such as genetically modified organisms in addition to concerns over animal welfare, sustainable agriculture, working conditions at global suppliers and, more recently, fears about terrorist attacks on the food supply chain.

All over the world, new reputational disasters are making the headlines, damaging shareholder value and trust with customers and other stakeholders.

For example, Greencore shares plunged 7% after it said it was voluntarily recalling egg-salad sandwiches, ham-salad

sandwiches, and seafood stuffing from US customers as a food safety precaution.

It followed listeria monocytogenes being found in environmental sampling conducted by the US Food and Drug Administration (FDA) at a Greencore plant. A Greencore spokesperson said that the recall was "a purely precautionary measure, as no finished products have been found to have listeria present and no confirmed illnesses have been reported".

While the sources of the crisis may vary from case to case and from industry to industry, in all cases, financial markets are punishing the companies, leading to a severe and sustained erosion of their respective market values. Often, the loss of public trust is only the beginning of a company's troubles. Lawsuits, public hearings and investigations soon follow.

GLOBALISATION OF A COMPLEX FOOD CHAIN INCREASES FOOD SAFETY RISKS

There is rapid globalisation of the food chain. Ever more complex food supply chains have increased the scale and scope of reputational risks. Today's food supply chains are incredibly complex and often span the globe. For example, fish caught on the open seas is filleted in China, frozen, and then sent to cold stores in South Korea, from where it is sold and delivered to factories around the world. So, cod caught 50 miles off the coast of Scotland will travel thousands of miles before it returns to its home country.

Consider also that in the past two decades, an increasing number of foodborne illnesses have been associated with the consumption of fresh fruits and vegetables (mainly *Escherichia coli*). These products may be exported around the world as ingredients for foods or for direct consumption. A change in eating habits, such as the consumption of raw or lightly processed fruits and vegetables, contributes to the occurrence of outbreaks.

This interlinked web of suppliers has evolved to make the best use of resources, such as raw materials and labour, but provides food businesses and their customers with a number of potential problems.

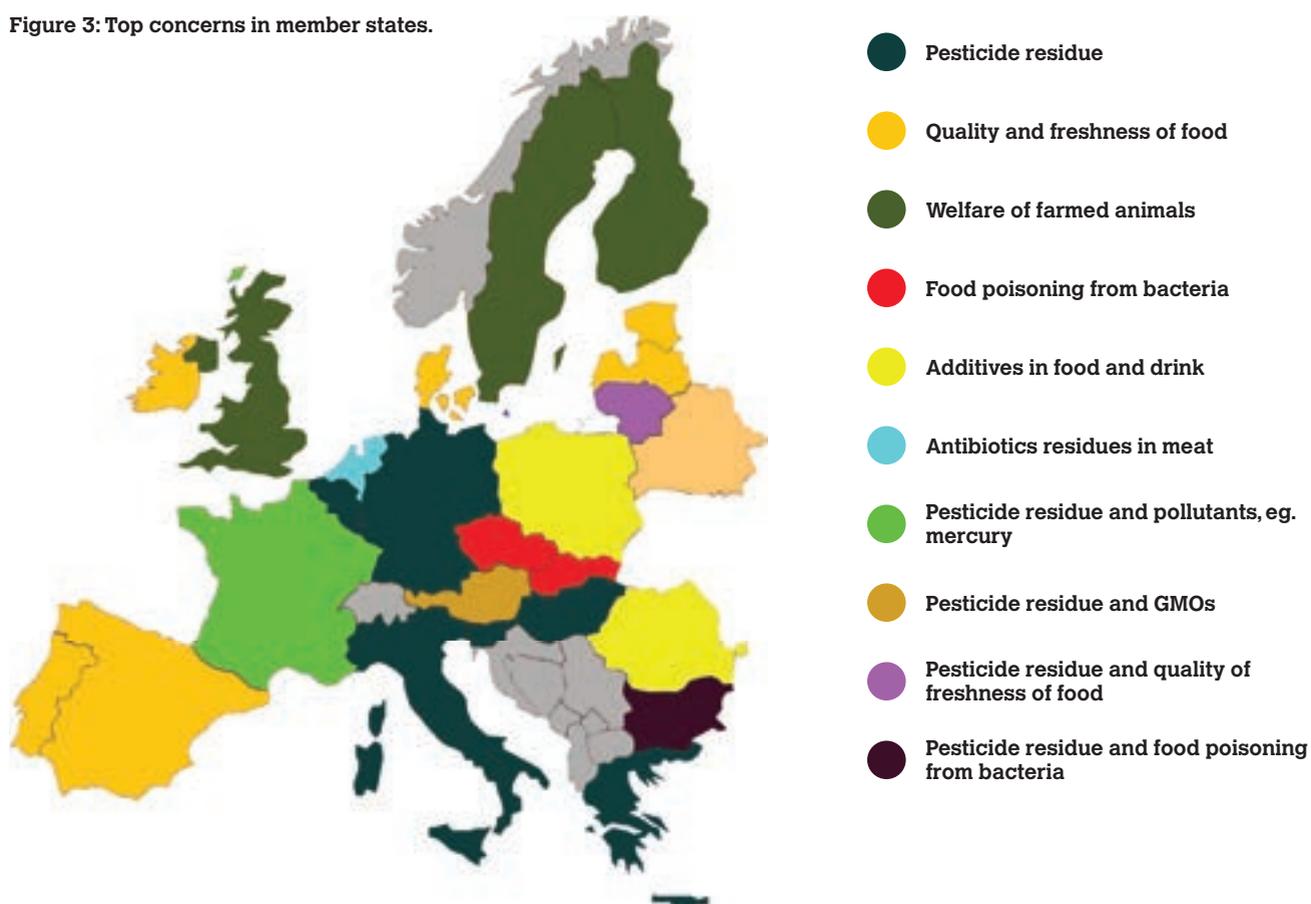
1. FOOD FRAUD

It can be difficult to be absolutely sure that the ingredients supplied are exactly as described, and have not been adulterated with cheaper products. The horsemeat scandal of 2013 provided a high-profile example of the impact of fraud in the supply chain. In the case of horsemeat there was no risk to those eating the ready meals that it had been used in. However, if undeclared allergens, such as peanuts, are mixed into ingredients the consequences could be very serious.

2. HYGIENE ISSUES

Given the vast number of products stocked by most supermarkets and the complex supply chains that underpin them, how can manufacturers ensure they are demonstrating compliance and accountability to their customers? One answer may be real-time monitoring of the

Figure 3: Top concerns in member states.



food chain using digitised Hazard Analysis & Critical Control Point (HACCP).

Because of the complexity and length of the food chain, food companies are less able to monitor business practices upstream or anticipate emerging issues. Once a crisis occurs, whether in food safety or animal welfare, it is the large visible company that tends to get blamed, even if the ultimate cause was further up the supply chain. Reputational risk transcends the legal limits of the company. This demonstrates the need for interdependence of HACCP and food-safety systems from one business to another. In essence, the integrity of the food chain is only as strong as its weakest link.

3. BRAND DAMAGE

Any issues with that the consumer has with product will be seen as the fault of the company selling the food, even if it was due to a supplier not following agreed processes. This not only causes major damage to brand reputation, but also means a company is legally liable for the consequences. Increased use of social media by the consumer may amplify the extent of the brand damage.

CASE HISTORY 1: 1999 BELGIAN DIOXIN CRISIS

In the spring of 1999, the toxic chemical dioxin was introduced into the Belgian food supply, including exports, via contaminated animal fat used in animal feeds supplied to Belgian, French and Dutch farms. Hens, pigs and cattle

ate the contaminated feed and high levels of dioxin were found in meat products as well as eggs. What followed was yet another European food-safety scandal filled with drama and public outcry. There were government investigations, the removal and destruction of tons of eggs and meat products and huge economic losses. The case study of this incident illustrates how the crisis unfolded, and evaluates how poorly the Belgian government managed and communicated this crisis. The government's major error was that it did not promptly go public with the knowledge of the crisis, resulting in accusations of a self-serving cover-up. The government's poor crisis management and communication strategy became the focus of intense public and media criticism and blame. Moreover, the significant issue of poor quality control in the food and feed industries was pushed to the sideline. Not only was the reputation of the food supply tarnished but public confidence in the government was damaged, leading to the resignations of two cabinet ministers contributing to the ousting of the ruling party in a national election.

CASE HISTORY 2: 2008 DIOXIN CONTAMINATION IN IRELAND

In 2008, beef and pork in Ireland was contaminated with dioxin, leading to an international recall of Irish meat products. Investigations revealed that animal feed had been polluted with the toxic chemical dioxin which then accumulated in pork, reaching 200 times the EU

recommended limit. Beef contamination was less severe and therefore not recalled. The crisis was a huge blow to the Irish meat industry where around 50% of pork products are exported internationally, for example, to the UK, the Netherlands, Germany, Italy, and non-EU countries such as South Africa, China and Japan. Nonetheless, the immediate and clear communications provided by the FSAI and others during the Irish pork dioxin crisis is acknowledged as an example of effective risk communication.

CASE HISTORY 3: 2017 BELGIUM FIPRONIL COMMUNICATIONS BREAKDOWN

Belgium first received information about dangerous levels of fipronil, which can cause liver damage in humans, in eggs on June 2017. Soon after, it launched a criminal investigation into the owner of a Flemish company called Poultry Vision, which put the illegal chemical into a detergent for killing chicken mites.

However, Belgium waited until July 20 to inform its European partners of the health scare via the EU's Rapid Alert System for Food and Feed (RASFF). Under EU law, a country must "immediately notify the [European] Commission under the rapid alert system" if it has any information relating to the existence of a "serious direct or indirect risk to human health deriving from food or feed." The crisis has led to near chaos in Belgium, with shoppers and stores unable to say exactly what is banned and what is allowed, and the government is currently in a state of disarray.

CASE HISTORY 4: 2011 GERMANY *E COLI* OUTBREAK

A novel strain of *E coli* O104:H4 bacteria caused a serious outbreak of foodborne illness focused in northern Germany in May through June 2011. The illness was characterised by bloody diarrhoea, with a high frequency of serious complications, including haemolytic-uremic syndrome (HUS). Initially, German officials made incorrect statements on the likely origin and strain of *E coli*. The German health authorities, without results of ongoing tests, incorrectly linked the O104 serotype to cucumbers imported from Spain. Later, they recognised that Spanish greenhouses were not the source of the *E coli* and cucumber samples did not contain the specific *E coli* variant causing the outbreak. Spain consequently expressed anger about having its produce linked with the deadly *E coli* outbreak, which cost Spanish exporters US\$200 million per week. Following the *E coli* infection outbreak in Germany, the Russian Federation banned the import of European Union food products and Spanish farmers had to give away their produce.

On June 30, 2011, the German Federal Institute for Risk Assessment announced that organic seeds imported from Egypt were the likely source of the outbreak.

RISK COMMUNICATION THROUGHOUT EUROPE

A key tool to ensure the flow of information to enabling swift reaction when risks to public health are detected in the food chain is the Rapid Alert System for Food and Feed (RASFF).

Created in 1979, RASFF enables information to be shared efficiently between its members (EU-28 national food safety authorities, Commission, EFSA, ESA, Norway, Liechtenstein, Iceland and Switzerland) and provides a round-the-clock service to ensure that urgent notifications are sent, received and responded to collectively and efficiently. Thanks to RASFF, many food-safety risks had been averted before they could have been harmful to European consumers.

MESSAGE DEVELOPMENT IN EFFECTIVE RISK COMMUNICATION

One of the key principles in effective communication begins with the characteristics of the message source. In order for the message to be believed and trusted, it has to be perceived to be coming from a reputable source or an expert within this area.

Communicating while facts are still uncertain is one of the hardest challenges in the early stages of an emerging incident. In this situation, it is important to say what you know, acknowledge what you do not know, and indicate what you are doing to acquire that information.

The characteristics of the message itself are also important. It is vital to communicate a message, which is specific and data driven. This also helps to build or regain the trust between the organisation and the consumer or customer. Keep the message simple and clear. It is best practice to develop just three or four clear and consistent key messages for use during an incident. These should demonstrate that you are aware of the situation and are taking action to address it. Prioritise the effect of an incident on people. Your key messages should address issues related to public health and deal with public concerns and perceptions. Support each key message with appropriate examples and data or other evidence to make them credible. For consistency, and to help convey authority, these messages should be used for all your communication materials. They can be adapted for effective use across a range of different channels and in different contexts – direct communication (person to person), phone calls, emails and social media. It is best practice to continuously review your messages as the incident develops and to update them as necessary.

Finally, look at the characteristics of the message recipient. The message has to make it clear to the recipient that the problem is serious and that they are susceptible to the problem. While ensuring not to be inflammatory or escalate their fears further, it is imperative that one fronts up to the risk and accepts responsibility as any attempt to cover-up any potential risks, may result in further reputational damage down the line when the full extent of the risk is revealed following the necessary investigation. However, in addition to this, the message must provide effective recommendations to address or deal with the problem but also ensure that the recipient is capable of carrying out the suggested recommendation or responses to the risk. Providing the recipient with the means of addressing the problem and creating the perception that they can negate the risk will help to alleviate and repair the reputational damage resulting from the risk.