The Belgian Dioxin Crisis of the Summer of 1999: a case study in crisis communications and management

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Index:

1. ABSTRACT

In the spring of 1999, 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 reported here illustrates how the crisis unfolded, and evaluates how the Belgian government managed and communicated this crisis, based on publicly available documentation. 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 and the ousting of the ruling party in a national election. This study confirms the basic components required to manage food-related stigma:

- Effective and rapid surveillance systems;
- Effective communication about the nature of risk;
- A credible, open and responsive regulatory system;
- Demonstrable efforts to reduce levels of uncertainty and risk;
- Evidence that actions match words.

Back to top

2. Introduction

A crisis can hit any organization unexpectedly and have devastating results, such as harm or injury to people or the environment. Short-term damage, such as loss of money and business, can be amplified by potential long-term effects such as lawsuits, loss of confidence and trust, and a damaged reputation. Whether it's an airplane crash, an accident at a chemical plant, tampering of a drug or an outbreak of foodborne illness, a crisis generates significant media coverage and public formation of attitudes and beliefs is often swift and dramatic. Quality assurance programs cannot completely protect against crises from occurring and must be complimented with effective crisis communications strategies which may mitigate against excessive losses for the organization in question.[1,2,3]

One of the best ways of learning how to effectively handle a crisis is to learn from the mistakes of others. Case study research in crisis communications and management, found primarily in the communications and public relations journals, examines the actions of organizations previously hit by crises and evaluates the effects of these actions. The accumulation of such case study research develops and validates theories about crisis management. Previous case studies include the Exxon Valdez oil spill,[4,5,6] the Vietnam War[7] and the Dow Corning controversy of the safety of its breast implants.[8]

This case study examines the Belgian dioxin contamination crisis of the summer of 1999. The events of the crisis were reconstructed from international media reports and from press releases from the Belgian government as well as the European Union. The effects of the management and communication strategy are discussed, emphasizing how the damage sustained by the government and the lack of criticism of the real culprits in the crisis were a result of the government's mismanagement of the crisis.

Back to top

3. Crisis Management and Communication

3.1. Crisis: definition, nature and consequences

A crisis is an incident involving a hazard that threatens, or is perceived to threaten, the safety or health of the public, the environment and/or the reputation of a particular organization. Examples can be threats to safety and health, but can also include civil lawsuits, law violations, accusations, complaints and labor disputes.[9] What makes an incident a crisis is the constant and intense public scrutiny via the media beginning early in the incident, before it has been resolved.[10]

In a crisis situation, the incident is highly visible and the stakes and risks for the organization are high. Once the public is aware of the problem, the crisis unfolds rapidly, erratically and unpredictably, with frequent and almost

instantaneous reports from the media. As a result, the organization sometimes feels the crisis is beyond its control.[11] The dynamic nature of a crisis requires that the organization too be dynamic, flexible and prompt in its response.

Often in a crisis situation, the media and the public stigmatizes the hazard, meaning they assume the hazard is serious and harmful. Negative imagery becomes linked with the hazard and this is often amplified by the media. The public quickly reacts against a stigmatized hazard. Stigmatization is a major component of public opposition to new technologies or products.[12]

As a result, the main concern is the management of the hazard. The real issues at stake are competence, conflicts of interest and the application of proper values and precautions in crisis management. This is reflected in media reports during a crisis, which often tend to focus on the organization's management of the crisis, rather than on the actual level of risk posed by the hazard (e.g. a chemical, bacteria, etc.). The only relevant issue is what is being done by the organization to reduce the risk of harm associated with the hazard. The organization's primary concern during a crisis should be stigma management, which includes the following five components:

- Effective and rapid surveillance systems;
- Effective communication about the nature of risk;
- A credible, open and responsive regulatory system;
- Demonstrable efforts to reduce levels of uncertainty and risk;
- Evidence that actions match words.

By reducing, mitigating and minimizing the risk from the hazard - and being perceived to be doing so - the stigma associated with the hazard and the organization can also be minimized.[13,14]

The manner in which the media reports the crisis depends on how a crisis is being managed by the organization and on the organization's track record of crisis management and media relations. How the media reports a crisis will have a large influence on how serious the crisis is perceived to be, whether it is disastrous or just a minor problem. Some define a crisis as simply bad publicity. Because the media have such power in directing the crisis and the public perception of the crisis, the organization must pay special attention to the media. Effective crisis management and communication can exert a positive influence on the media.[15]

The initial media reports of a crisis are often based more on allegations rather than concrete information or evidence, because it simply isn't available, so early in the crisis, even to the organization. This can lead to confusion, contradiction, misinformation and constantly changing information. Everything the organization does and does not do is reported and judged, most often by those unfamiliar with the organization, its products and services. The media is constantly looking to the organization for responses and comments. An organization can be judged on how it appears on camera rather than what it is saying because body language often speaks louder than words. An experienced spokesperson who performs well under pressure is crucial to the organization during a crisis.[16]

The media will also report responses and often opposing positions of other players in the crisis, such as vocal and well-organized activist groups, industry groups, government, regulatory agencies and experts in the field. Because the organization's comments will be seen as self-serving, the media will turn to these other players for "objective" third party information or opinions.[17] The organization must compete with these other viewpoints in the media and therefore must be proactive in its communication strategies with the media to make sure its message does not get lost in the mayhem. Effective crisis communication is an essential part of effective crisis management.[18] A crisis will inevitably result in economic losses. However, effective crisis communication and management may minimize the loss in trust and confidence and reduce the amount of time the crisis will be covered by the media.

3.2. The do's of crisis communication

The goal of effective crisis communication is to accurately present, as soon as possible, the organization's standpoint, which must be perceived as being open, honest, proactive, responsible and concerned. The organization must tell the public what the problem is. If it cannot be confirmed at first, the possibilities can be

identified and investigations must be initiated to find the actual source of the crisis. Additional information must be communicated immediately. Claims and allegations need to be backed up and confirmed by evidence.[19,20]

The organization must take immediate action to deal with the situation and with the public's concerns. Actions must quickly follow words.[21] These actions should minimize any further risk to the public and should ensure that the problem does not happen again. These actions must be promptly communicated. The organization has to be seen to be the protagonist, in charge and actively working to solve the problem.[22,23] Crisis communication is the way for the organization to assert some control over how the situation is being reported and perceived.[24] By asserting this control, the organization can use the media to its advantage to communicate its message, instead of being victimized by the media by not being in control.

The whole story has to come out, even if it's bad. If certain facts are withheld, someone else will find them or leak them out and it will be reported, but not on the organization's terms. Slowly releasing information will prolong the amount of time the story remains in the news and will give the impression that the situation is getting worse, rather than better.[25,26]

If the organization is to blame, then it should be the first to admit such. A cover-up will only make the organization look worse. Once the error has been identified, action can be quickly taken and the crisis can be more quickly resolved. Otherwise, there will be continual public speculation of who was to blame and the crisis remains in the spotlight for a longer period of time.[27]

Communication is a two-way process. The organization must listen to and understand what its audience's concerns and perceptions are, whether the audience is the media, consumers or employees. Communication strategies must directly address those concerns, in a simple and compelling manner. This monitoring process should also pick up any misinformation present in the black box known as public discussion. The organization must work aggressively to correct misinformation.[28,29]

The key to effective crisis communication and management is the management of stigma associated with the hazard and with the organization.[30] Although a hazard may be stigmatized, the organization responsible for that hazard, if it manages the crisis properly, does not necessarily have to be stigmatized as well. Thus crisis communication and management are the most effective ways of minimizing long-term stigma attached to the organization.

3.3. The don'ts of crisis communication

Poor crisis communication will result in other opposing and speculative points of view receiving a larger amount of media coverage. This creates allegations with little evidence, exaggerated perceptions of risk, rumors, public anxiety and fear and ultimately a damaged image and public confidence.[31]

There are many common mistakes in crisis communication. Lack of prompt communication with the media, even when there isn't very much information available, or appearing defensive will lead the media and critics to assume the organization is denying or downplaying the existence of a problem. Failure to address the perceived problem, no matter how large the problem actually is, will result in the public turning against the organization. The organization will be antagonized throughout the crisis and trust and credibility will be very difficult to regain. If the organization doesn't create its own message in its own terms about the real issues at stake, another message will be created for it, which may or may not be truthful. The result is confusion and contradiction between the organization and the media throughout the crisis.[32]

Wrongly identifying the magnitude of the problem or the issues concerning the public can make the organization seem insensitive to the problem. If the organization says the problem is minor while other players say the opposite, the organization will be seen to be taking a very passive, laissez-faire approach when it should be taking a proactive approach.[33]

Often a crisis is multi-faceted, affecting different stakeholders differently. For example, shareholders would be concerned with profits and image while consumers would be concerned with safety. Although the organization must address the needs of all its different stakeholders, its messages and actions targeted to a particular

audience must address that audience's specific concerns.[34]

An ambiguous message using technical or legal jargon will not be understood or appreciated by the public. The media and the public want the straight facts, plain and simple. A message that is not plain and simple can be misinterpreted or be perceived as condescending or hiding the truth.[35]

Back to top

4. Dioxin

4.1. Definition

Dioxin is a general term referring to different forms of stable, lipid-soluble polychlorinated/brominated dibenzo-p-dioxins. Included in this group is the much-studied 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD). There are several other halogenated aromatic compounds also classified as dioxin-like because they have similar toxic effects and are thought to be toxic via a common mechanism. These include polychlorinated/brominated dibenzofurans, biphenyls (PCBs), naphthalenes and others.[36]

4.2. Toxicity

Dioxins are stable in the environment and in organisms, resisting degradation and metabolism. They accumulate in fatty tissue in organisms and are thus not excreted. In humans, the half-life is an average of seven years. Organochlorines such as dioxins are known to biomagnify, meaning that the concentration increases as it moves up the food chain. Thus, low levels of dioxin in the environment, when taken up by plants and then eaten by animals and humans, will show up at increased levels in the organisms higher up in the food chain. The best known method of destroying dioxin is incineration at a temperature of at least 850^{o}C.[37]

Single, high-dose exposure of laboratory animals to TCDD (ranging from less than one microgram to a few milligrams per kilogram of body weight) is lethal. Even among mammals there is a large degree of variation in sensitivity to single-dose exposures. With a lower-level, long-term exposure, TCDD consistently causes cancer in several organs and tissues of several species of laboratory animals, including mice, rats, hamsters and fish. Other symptoms associated with short-term exposure are also seen in long-term exposure.[38]

There is disagreement in the scientific community about the mechanism by which TCDD causes cancer. This disagreement has led to different methods of determining the cancer risk of TCDD – that is the "safe" or "acceptable" daily dose of TCDD and the probability of disease at a given exposure level. Different experimental protocol, assumptions, models and interpretations involved in risk assessment as well as politics and industry interests have created differences among and within countries as to how policy regulates dioxins.[39] These differences have contributed to controversy and confusion about the safety of dioxins.

This controversy has resulted in a wide range of different acceptable doses among various countries and organizations (from 0.006 to over 20 picograms per kilogram of body weight per day). All of these values are derived from animal experiments, most of them studying cancer of the rat liver. Although there is still uncertainty in the determination of acceptable daily dose, it has been repeatedly reassessed by the U.S. Environmental Protection Agency (EPA) as more biologically realistic models of dioxin toxicity have been developed. A 1998 re-evaluation of the Tolerable Daily Intake by the World Health Organization calculated the TDI to be 1 to 4 picograms per kilogram of body weight.[40]

Most dioxin studies have been focussed on carcinogenicity. However, it has been shown that dioxins also cause reproductive and developmental problems in laboratory animals. Dioxins are immunotoxic, meaning they reduce

the immune system's ability to fight off infection. Unlike cancers, only short-term prenatal exposure of the mother to dioxins is needed to produce long-term developmental and immunological problems in the offspring either at birth or later in life. Risk assessment in these areas is not as developed as it is for cancer. More is known about these effects in animals than in humans because human epidemiological studies could not separate the effects of dioxin from the effects of other chemical compounds. However, the data do suggest that the effects in humans are the similar to those seen in animals.[41]

Most scientists agree that TCDD can cause cancer in several organs in humans, based on extrapolation from animal studies as well as human epidemiological data which show that groups exposed to higher-than-normal levels of dioxin in the workplace (e.g. chemical factories), environment or in contamination accidents are more likely to get cancer. Data from these epidemiological studies also show a positive dose-response relationship between exposure level and risks of cancer. The human sensitivity to dioxins compared to laboratory animals has not yet been established.[42] Work is underway to determine the dose-response relationship of dioxins causing cancers in humans.[43]

4.3. Sources and prevalence of dioxin in the environment and food

Dioxins are by-products of industrial chemical processes. They are released into the environment when the chemical reactions are not properly controlled or when the wastes are mismanaged. Organochlorine products such as some herbicides and chlorophenol used for wood preservation can be contaminated with by-products like dioxin during production.[44]

The chlorine bleaching of pulp for paper products produces dioxins which can be found in pulps, waste sludge and effluents. Incomplete combustion during waste incineration, metals production, petroleum refinement and fossil fuel combustion are considered to be the major source of dioxins. New methods in gas scrubbing and pulp bleaching have lowered the amount of chlorine by-products produced over the years.[45]

Dioxins can be carried long distances by wind currents. Dioxins can also be transported far in water systems if it is adsorbed to a particulate. While air-borne dioxins can be degraded by UV radiation, they can persist and accumulate in soil, water and organisms. It has an estimated half-life of 10 to 12 years in soil.[46]

Dioxins can be found in low-levels in foods such as fruits, vegetables, meat, milk and eggs. Dioxins have been found only on the surface of fruits and vegetables and usually at levels close to or below detection limits. Plants grown in the area of a contamination accident have higher levels.[47]

Dioxin in milk is measured in hundredths of a nanogram per kilogram of whole milk. Dairy farms located close to industrial factories such as incineration plants generally produce milk two to four times higher in dioxin. Dioxin in meat is measured in nanograms per kilogram of fat. Levels in liver are generally two to 10 times higher than in fat.[48]

In eggs, dioxin is measured in hundredths of a nanogram per kilogram of whole egg. Free-range birds feeding on possibly contaminated soil can have up to 100 times more dioxin in their eggs. These levels of dioxin in food translate to estimated daily intake levels in Germany, the United Kingdom and Canada of 12 to 50 picograms from milk products, up to 24 picograms from meat and 5 to 15 picograms from eggs.[49]

Food produced in industrialized nations will contain low levels of dioxin because of the presence of numerous industrial processes that produce dioxin. The food distribution system operates such that an individual will consume food produced at a variety of different locations, some close to factories and some not. This widespread distribution system should minimize the risk of a consumer eating a food consistently high in dioxins.[50]

Back to top

5. Belgian Dioxin Crisis

The international print media began reporting the Belgian dioxin contamination crisis on 29 May, 1999, one day after the Belgian Public Health Minister announced the ban on the sale of chickens and eggs. The story, however, did not begin here. According to Belgian authorities, the government knew of a problem as early as mid-March and the presence of high levels of dioxin was confirmed on 26 April, one month before the contamination was made public.[51]

The Belgian government launched an Internet web site entitled Dioxin Contamination on 1 June. 1999, and the following chronology of events leading up to the 28 May recall is taken from this web site. The rest of the story is reconstructed from Belgian government and European Union sources obtained from their web sites as well as from national and international news wire services (Reuters, Associated Press, Press Associated News, International Herald Tribune, Dow Jones News), often reprinted in national and local newspapers. From the wire services, approximately 250 stories representing three and a half months of coverage were examined.

A storage tank of fat owned by the Verkest firm, a fat and oil processing plant and animal feed manufacturer based near Ghent in northwest Belgium, was contaminated with a substance containing dioxin on 18-19 January, 1999. There was no official confirmation from the government of the source of dioxin or how it got into the animal fat, but media allegations in the few days following 29 May reported that motor oil or some other industrial oil was deliberately or accidentally mixed with the animal fat. By the end of January, the contaminated fat was processed as animal fat and used to make animal feed by Verkest. Verkest also supplied contaminated fat to eight other Belgian animal feed manufacturers, as well as one French and one Dutch manufacturer. This feed from Verkest and from the other manufacturers was then sold to egg, broiler chicken, pork and beef producers.[52]

During February, the Da Brabender firm, an animal feed producer, began noticing problems with its mother hens, which are used to produce one-day old chicks. The government did not state exactly what was the nature of these problems, but once the story broke, the media reported that there were nervous system problems with the chicks and a high proportion of eggs failing to hatch. On 3 March, the firm contacted its insurance company which in turn appointed a veterinarian, Dr. Destickere, to investigate the problem. Over the next two weeks, Dr. Destickere concluded that the fat in the animal feed was the most likely cause of the problem. On 18 March, Da Brabender sent a sample of feed produced in January to a Dutch laboratory for analysis. Da Brabender notified the Belgian Ministry of Agriculture on 19 March. A few days later, the Belgian government began investigations of Verkest and samples from different tanks were taken. Analysis completed in May revealed no dioxin in these samples. Verkest was also found to be violating some administrative and technical regulations such as labeling requirements and the public prosecutor was notified 12 April.[53]

On 21 April, Dr. Destickere reported to the Ministry of Agriculture of his suspicions that dioxin may be the root of the problem. Five days later on 26 April, more than one month after the samples were sent to the laboratory, analysis results confirmed his suspicions that dioxin was present at high levels in the animal feed as well as in chicken fat.

Based on these results, the Belgian government, throughout May:

- Traced the distribution of contaminated fat and feed sold by Verkest from 19 to 31 January.
- The additional eight Belgian, one French and one Dutch animal feed producers were identified and the French and Dutch authorities were officially notified 3 and 12 May respectively.
- Ten poultry producers who bought feed from Verkest were also identified.
- Halted the production and sale of animal feed and fat from the nine implicated animal feed producers including Verkest.
- Stopped the sale of chickens and eggs from Verkest's 10 buyers.
- Took more samples for testing from Verkest, from more chickens, eggs, animal feed and pork.
- Investigated 417 poultry farms suspected of receiving contaminated feed.

The Belgian Ministries of Agriculture and Public Health coordinated this strategy together with the Cabinet and industry.[54]

On 26 May, test results revealed high levels of dioxin in mother hens and breeding eggs for hatching from farms receiving feed from the implicated animal feed producers. This meant that chickens and eggs on the market in April had high levels of dioxin. Beginning on 27 May, the 417 poultry farms that bought feed from these nine suppliers were all placed under surveillance and the tracing of their poultry and egg products began and was completed by 30 May with the removal of the products from stores.[55,56]

The Belgian government explained the situation in a short press release on 27 May. On the same day, the member nations of the European Union (EU) were officially informed of the situation. On 28 May, the Public Health Minister publicly ordered the removal of all chicken and eggs from store shelves and cautioned the public against eating Belgian poultry and eggs.[57]

After the weekend, beginning on 31 May, media coverage exploded, with allegations of government cover-up because the government knew of the problem as early as February. One report noted that it was a media leak that forced the government to release the information.[58] It accused the government of serving the economic interests of farmers' unions and the meat industry, and of trying to protect themselves in preparation for the general elections on 13 June, instead of protecting public health.[59] The Belgian newspapers were especially harsh, calling the incident "total havoc" and "a human and economic catastrophe."[60]

On 1 June, the Belgian government established a web site with facts and dates about the contamination, facts about dioxin, press releases, addresses, phone numbers and official government reports for public perusal. As well, the public was informed of call centers which consumers could call for information.[61]

The environmental group Greenpeace released a statement expressing shock that the government waited weeks before informing the public. Greenpeace urged governments to do more to eliminate the "super-poison".[62] Greenpeace provided more details about dioxin's harmful effects and claimed that the risk of dioxin contamination was higher than commonly thought, citing other incidences in Europe where dioxin had gotten into the food supply in the last two years. Greenpeace claimed that Belgium and other European nations were frequent violators of EU laws regulating the treatment of chemical wastes.[63,64]

The media by 1 June were already reporting a statement made by the Farm Commissioner of the European Commission (EC), Franz Fischler, of the EC's intention of taking legal action against Belgium for its tardy notification.[65] The EC, the executive body of the EU, did not initiate legal proceedings until 21 June but it was already in the press 20 days earlier, damaging the Belgium government's image early in the crisis.

The initial ban was extended by the government on 1 June to include a halt on the wholesale of all products containing chicken or eggs until they were inspected. Slaughter and transport of poultry and, two days later, cattle and pigs were prohibited. A preliminary list of all poultry and later pork and beef farms, using feed originating directly or indirectly from Verkest was drawn up and was constantly being updated. Restraining orders were placed on these suspect farms. The Belgian government extended the order to remove pork products from stores on 2 June.

The slaughter bans had other consequences. Animal rights activists reportedly asked the government to allow emergency slaughter of chickens still crowded on trucks to prevent a slow death by suffocation. Animal breeders and producers were reported to complain about the extra cost of feeding animals that would have otherwise been slaughtered. This extra feeding made the chickens too big to sell.[66] Farmers and food wholesalers and retailers were asking who was going to compensate them for their losses from withdrawn and destroyed food. Some employees were temporarily laid off and businesses shut down. Farmers reportedly thought the measures were too drastic and that their reputations were being unduly tarnished.[67]

The Belgian Agriculture and Public Health Ministers resigned on 1 June. The Cabinet publicly stated that the ministers still felt they handled the situation properly but that by resigning, they hoped to restore public calm and trust.[68] Belgian newspapers reported that the resignations did nothing to improve an already damaged public

confidence but were necessary for the government to save face.[69,70] Campaign activities leading up to the 13 June elections were suspended as government officials were tied up in crisis meetings for hours. Reports likened this latest episode of government bungling to the escape in 1998 of a Belgian convicted child rapist from police custody, which also caused two ministers to resign.[71] The media published surveys showing weakening support for the current government and Belgian editorials said the Prime Minister was no longer capable of running the country.[72,73]

The German Agriculture Minister was cited as saying that the problem could have been solved had the EU been informed earlier.[74] The European Parliament's Socialist group urged the rapid tracing of all contaminated products and even implicated Belgium's famous chocolates, calling for a Europe-wide ban on chocolates as a precaution to protect against any possible link with dioxin.[75]

In a press release issued on 2 June, the EC announced that all member nations must remove and destroy all potentially dioxin-contaminated feed, poultry and egg products and other products containing more than 2% egg product produced by the suspect farms between 15 January and 1 June. The EC also gave permission to ban Belgian imports unless they were certified to be safe. The Belgian government also had to provide all necessary information to importing nations to help them with tracing and monitoring of products.[76]

Also on 2 June, two executives, father and son, from Verkest were arrested and charged with fraud and falsification of documents which misled customers to thinking they were buying 100 per cent animal fat. The accused denied that the contamination was deliberate.

According to media reports, countries across Europe were recalling all Belgian egg and poultry products. It is doubtful that these countries had enough information from Belgium at this early stage in the crisis to pull only those products linked to the suspect farms. Some EU countries were already imposing complete import bans on Belgian products. There was speculation in the media that there was enough time for plenty of dioxin-contaminated foods to pass through the market and into humans.[77] Throughout the crisis, the Belgium government was reported to be downplaying the severity of the incident, saying the threat was under control. A union representing Belgian farmers was cited as saying that an export ban could destroy the meat industry - an important sector of Belgium agriculture - which exports half of its products.[78] Consumer groups were also in the news, cautioning consumers to stay away from the implicated products.[79]

Within two to three weeks following the first announcement of contamination, at least 30 countries including Canada, Australia, Hong Kong, Taiwan, Russia, Egypt, Algeria, South Africa, Poland, Switzerland, most EU countries and several other non-EU countries temporarily banned imports of Belgian agriculture products and were removing Belgian products from store shelves. Some countries banned just poultry products while others banned all types of meat, dairy products, animal feeds and/or livestock. As the crisis unfolded, countries were adding more products to their lists of banned imports such as chocolates and other processed foods that could have contained contaminated chicken or eggs. Some countries banned imports from France, the Netherlands and Germany as well. The United States and Singapore took it one step further and temporarily banned all European poultry and pork. EU officials responded, saying that it was disproportionate to ban all European products. The U.S. imported around $250 million of pork from Europe last year.[80] The Dutch government said in a statement that confusing reports about the crisis gave rise to more concern and resulted in government leaders taking drastic measures.[81] Belgian trade came to a virtual standstill as the Belgian Prime Minister accused EU nations and the U.S of overreacting.

Media reports varied widely in their descriptions of level of dioxin found in contaminated products, ranging from 140 times to 700 times to 1500 times the normal or acceptable level. The media reports described dioxin as a cancer-causing toxic chemical that could damage the immune and nervous systems, despite the fact that the EU Commissioner for Consumer Affairs was cited as saying that acute effects from eating poultry and eggs contaminated with dioxin were relatively improbable.[82] The Commissioner did however say that the long-term effects, as well as the rate of exposure, were not well known, adding to the uncertainty.[83] Another EC official was cited as saying that "the problem had been eaten" because the contamination happened months earlier and because of the perishable nature of the contaminated products.[84]

By 4 June, the Belgian government released a preliminary list of products known to be connected to Verkest, in response to confusion encountered by consumers and retailers about which products were suspect. Centers were opened throughout Belgium to accept suspect products delivered by consumers, retailers and wholesalers. The products on the list were incinerated. Meanwhile, news reports stated that Belgian residents were shopping at organic food stores, demanding more exotic meats like rabbit, horse and kangaroo, and travelling to France, Germany and England in search of untainted food.[85]

The EC, backed by its standing expert veterinary committee, extended its restrictions on 4 June to include products derived from livestock other than poultry (including milk and dairy products) from suspect farms because Belgian authorities could not firmly rule out the possibility that contaminated feed had been sold to cattle and pork farmers. These actions ordered by the EC extended much farther than the actions taken by the Belgian government. The EC ordered the ban on all pork and beef products, including milk, while the Belgian government banned only high-fat meat products and butter on 5 and 7 June. Belgian officials insisted that all other dairy products were safe because the pooling of milk from different dairy farms would dilute any dioxin present to safe levels.[86] Disagreements between Belgium and the EC were clearly shown in subsequent Belgium and EC press releases and were frequently reported by the media throughout the crisis. The EC also expressed concern that it was notified of the problem only on 27 May when the Belgian government knew about it at a much earlier date.

The Belgian government assured the public through a press release on 5 June of its concern for public health. It stated that it wanted to quickly restore trust of both citizens and suppliers by providing safe products on the market. This would also have benefits to business. The statement seemed confident and optimistic, declaring that "as of next week, a safe supply to the market can be assured by unsuspected companies."[87]

This statement also outlined the government's actions taken to date to control the situation. It explained that the contamination was an isolated event, limited to a certain time period and to a certain group of products and was not a systematic, widespread contamination. It was emphasized that all poultry and egg products and animals were being held only until it was confirmed that they were connected to contaminated animal feed. If so, they would be destroyed. Otherwise, they would be released back onto the market.

However, with pork and beef products, the government said they would be gradually removed from shelves because no contamination had been found to date in pigs or cattle. The government stated it was meeting with the EC to discuss the practical implementation of its decisions, suggesting that there was some disagreement between Belgium and the EC as to how the situation should be handled. The government also stated it was meeting with industry to discuss practical implementation of the bans. In the meantime, the government released a list of only high-fat beef and pork products that were to be taken off the shelves by 6 June, contrary to the EC's decision to remove and destroy all potentially contaminated pork, beef and dairy products. By 7 June, butter, the only dairy product, was added to the list of banned products.

If Belgium was appealing to the EC for relaxed restrictions, it didn't work. After it met with Belgian authorities, the EC further emphasized on 9 June that Belgium was completely responsible for fully complying with the EC's decisions and this meant removing all dairy products from the shelves and not just butter. Media reports said the EC was very critical of Belgium's failure to fully adhere to its decisions with regard to dairy products, compared to the actions of France and the Netherlands, which the EC praised.[88] The EC still did not feel that all dairy products were safe. The EC did however admit that there was little it could do to force compliance.

The Dutch Minister of Agriculture resigned on 7 June. He was under fire for failing to tell the public and the EC about the contamination, when it was revealed that the ministry was informed of the problem on 12 May. The Belgian Health Minister admitted on TV on 7 June that there was a black market of animal feed trade, further complicating the tracing of contamination.[89] The media was reporting that farmers groups, whose businesses were at a standstill, were demanding compensation for their enormous economic losses, estimated to be over $10 million each day.[90] They accused the government of endangering their livelihood by withholding information. The Food Industry Federation (FEVIA), with at least 200 companies affected, was claiming ever expanding daily losses into the hundreds of millions of dollars.[91] The process of destroying contaminated products was reportedly hindered by the uncertainty of who was going to be paying for the transportation and incineration of contaminated products. However, the Belgian government at this point was still focussed on tracing the contamination and was not paying much attention to payment and compensation.

The Belgian government issued another statement on 8 June to clarify the facts, issues and actions and to once again state its concerns for consumer health. It reiterated that the dioxin in animal feed incident was an isolated contamination, that the small number of contamination sources had been identified and that no cases of serious health problems had been detected as a result of the contamination. It stressed that only a small proportion of agricultural production had been affected and that the EC measures were not a general embargo of Belgian products. While the sale of butter was banned, the sale of milk and cheese was not, the statement said, which was contrary to the EC's 4 June decision. The final list of 445 poultry producers (half of all poultry farms) associated with Verkest was released, allowing those not on the list to continue with business as usual. Similar lists for pork and beef producers were finalized a day later, consisting of 746 pig breeding farms (40 per cent of pork farms) and 393 cattle farms (17 per cent of cattle farms).[92] These farms were supplied with an estimated 176,000 pounds of contaminated feed. With these lists, the Belgian government was optimistic that the crisis was over and that it would soon begin certifying and releasing safe products back onto the market.[93]

Up until 8 June, Belgian surveillance had only identified animal feed, meat and egg producers that were linked to fat purchased from Verkest between 19 January and 31 January. However, on 8 June, the Belgian Prime Minister announced in a speech that, upon the urging of the EC, the Belgian authorities would be investigating all Verkest customers (and their buyers) buying Verkest products between 19 January and 1 June. This effectively expanded the list of suspect farms from 445 poultry producers to 811. The Prime Minister stated that the Belgian government remained convinced that contaminated sale of products from Verkest occurred only in the second half of January.[94] On 9 June, the Belgian government lifted the ban on chicken slaughter for those farms not on the lists. The removal of the ban on beef and pork slaughter occurred on 10 June. However, the poultry blacklists were expanded again by the report of one supplier saying that three of its plants - not one - had used fat from Verkest.

On 10 June, anger among farmers culminated in road blockages at the Dutch and French borders, protesting the export bans and the flood of imports coming into Belgium.[95] Demand and prices for poultry products fell in Germany.[96]

The expanded lists were released on 10 June, and those manufacturers and farmers not on the list (i.e. were not associated with Verkest products) were declared to be safe and were allowed to continue with usual business, including a large proportion of the beef and pork sectors. A spokesperson for the Prime Minister said the government was confident that the problem was resolved because many of the farms on the list were testing negative.[97] Belgium was appealing to the EC to relax the restrictions on exports and to allow all products, even those from blacklisted farms to soon be released for sale. The Belgian Dairy Federation had to get a court injunction to force the government to provide it with a list of certified-safe dairy farms. The injunction also ordered the government to pay the dairy industry $25 million per day to help cover losses caused by the lack of such a list.[98]

On 9 June, the EC released a statement of its own, also summarizing its actions taken and providing an update of the information gathered so far from farm surveillance and sample analyses in Belgium, France (181 farms under restriction) and the Netherlands (426 farms quarantined). It is important to note that in this statement, the EC said that given the lack of EU standards for dioxins in food other than milk, it asked member nations on 7 June to provide data on background levels. These data would be used to evaluate the level of contamination. A call went out, appealing for scientific opinion on Tolerable Daily Intakes and methods of detection.[99]

The Belgian government announced subtly in a press release dated 11 June that it had won a dispute with the EC. The Permanent Veterinary Committee of the EU supported the government's method of compiling its list of suspect companies, based only on January purchases of Verkest products, rather than on purchases made from January to June as the EC had requested.[100] By limiting the investigation to companies purchasing Verkest products only in January, the volume of products banned from sale was much less than if the January to June time frame had been investigated. Thus, Belgium went back to using its first set of final lists to bring certified safe products from farms not on the list back onto the market. The EC approved of a new single certificate system to replace the old system of 20 certificates. With this single safety certificate, certified products could more easily be exported, but they still needed certificates of safety.[101] The Prime Minister, two days before the election, told Belgian radio that the food supply was safe and that the EU restricted Belgian

beef and pork without justification.[102]

The EU agreed to allow the use of polychlorinated biphenyls (PCBs) testing instead of dioxin testing because PCB tests were shorter and cheaper to run. Because dioxins are formed from PCBs with heat, it was assumed that dioxins were present only when PCBs were present.[103] This statement also outlined the government's plan of widespread sampling and PCB testing of the poultry, beef, pork and dairy sectors, in a move intended to begin the release of all certified safe products. By 12 June, the shelves were being restocked with products from non-blacklisted farms and testing and certification of blacklisted farms began. Hundreds of farms still remained under quarantine during this testing period and farmers complained the certification process was too slow. Continuing tests of quarantined farms in France, Belgian and the Netherlands were negative for PCBs. However, many countries still had not lifted their import bans and were continuing to pull products from their store shelves. The import bans persisted for weeks after 12 June and were removed only very gradually, one country and one product at a time. Most of the import bans were removed by the end of August. Due to the heightened awareness of dioxins, countries around the world, including Canada, began more routine checks for dioxin and/or PCBs.

Even with the return of food to store shelves, there was continuing media speculation about safety because the actual source and cause of the contamination still were not confirmed.[104,105] There was a heightened sensitivity to dioxin both in the media and among food safety inspectors. On 15 June there were still reports of French farms being shut down for further testing.[106] Belgium continued to quarantine pig farms as late at 27 June, because these farms were discovered to have bought piglets from farms suspected of using contaminated feed.[107] British farmers protested against meat imports from the continent, fearing they were still contaminated.[108] The German Ministry of Agriculture claimed that chicken products imported from Belgium before the dioxin scandal had high levels of PCBs.[109] High levels of dioxin were found in Austrian animal feed on 16 June but it was not linked to Belgium exports, fuelling fears that dioxin contamination was a widespread problem in Europe. On 22 June, German inspectors found more Belgian imported meat containing high levels of dioxin.[110] Latvian inspectors found dioxin in Dutch meat on 9 July, prompting Latvia to re-impose its import ban that had been lifted eight days earlier.[111]

As media coverage continued steadily throughout the crisis, there began to be more discussion about the weaknesses of the European food safety system, spurred on by critical comments from the EC's Agriculture Commissioner. The EC sets the policies regulating farming such as animal feeds but relies on the 15 individual nations to enforce these policies and to voluntarily tell the EC if any problems arise. Some EU officials were calling for the creation of a European independent food safety body equivalent to the U.S. Food and Drug Administration.[112] This was met with some opposition from individual nations, fearing further loss of sovereignty. The Belgian Health Minister was blaming the lack of controls on the ingredients of animal feed.[113] French government officials were also calling for greater regulation on animal feed such as a ban on the addition of any animal products to animal feed.[114] The United Kingdom already has this ban in place, established in the wake of mad cow disease, but the feeding of animal protein to animals is widely practiced throughout the rest of Europe. A previous attempt to introduce a similar ban across Europe failed. France challenged the EU to introduce this ban within six months, or else France was going to establish a ban unilaterally in France.[115]

The 13 June election toppled the center-left Christian-Democrat/Socialist coalition after 12 years in power and brought in the center-right Liberals and the Green Party as the main winners.[116] The Christian-Democrat/Socialist coalition had been riding high in the polls before the dioxin crisis hit, largely because of low unemployment and a shrinking national debt.[117] The government had been rocked by two other scandals resulting in the resignations of three ministers during its four-year term. After the dioxin crisis, the Belgian public revolted. The defeat marked the end of Prime Minister Jean-Luc Dehaene's eight-year career as Prime Minister. He was Belgium's longest serving prime minister. He also resigned as the leader of the Christian-Democrat party.[118]

There was still disagreement at this point between Belgium and the EC about the safety of milk and dairy products. EU scientists approved on 16 June new tests and acceptable levels of dioxins for milk that were lower

than the previous standards. It wasn't until 7 July that the EC removed sales and export restrictions on Belgian milk and dairy products, meaning that they could be sold without safety certificates. The dairy sector was the first to have all restrictions removed by the EC.

A preliminary report prepared by EU inspectors in Belgium on 16 June found shortcomings in its feed production system and concluded that the EC's decisions were not being fully carried out by Belgium. The report also criticized the flow and co-ordination of sometimes incomplete and contradictory information from the government resulting in a confused public, and recommended that Belgium fully comply with EC directives and continue to investigate the cause of the contamination.[119]

By late June, the economic impact was beginning to be felt as food processors were filing for bankruptcy, farmers were demanding compensation from the government and threatening to march on Brussels.[120] Because half of Belgian's meat supply is exported, the import bans severely hurt the industry. The Federation of Belgian Food Industries (FEVIA) said there were 6000 people unemployed and that number was expected to increase. FEVIA estimated that $750 million US was lost as a result of the crisis, a figure that did not include the cost from depressed prices and loss of future sales due to a damaged reputation.[121] Belgian shoppers were still having difficulty finding a good supply of food one week after the lifting of the bans. Despite the lifting of domestic sales bans, farmers were having problems selling their products and predicted that it would take several years for the industry to recover.

The Belgian government appointed a crisis manager on 18 June to control the dioxin problem and to deal with the damage caused by the contamination, by which time the worst of the crisis was effectively over.[122] A crisis manager should have been called in while the crisis was unfolding to try and minimize the damage before it happened. Sending in the crisis manager to clean up the damage already done was not an effective way to manage a crisis.

The EC initiated infringement proceedings against Belgium on 21 June, accusing Belgium of not promptly informing the EC about the dioxin contamination and of not properly implementing the EC's directives about banning the sale of certain pork, beef and dairy products.[123] If the EC finds that Belgium violated EU law, it could take Belgium to the European Court of Justice but financial penalties are unlikely. This process could take years.

By 23 June, Belgian officials arrested two executives from Fogra, a fat recycling and supplying firm which sold fat to Verkest. The public prosecutor said Fogra was the initial source of contamination, having dioxins and PCBs in its products and suggested that motor oil was mixed deliberately or accidentally with frying fat at Fogra. Fogra's lawyer was quoted as saying that the firm did not have to check the quality of its input oils because of a loophole in the law.[124] It was then found that Fogra exported some of its product to Spain during mid- to late spring, after the Verkest contamination occurred. Spain promptly traced and confiscated the Fogra oil.

The investigation into the source and cause of the dioxin contamination was on-going but investigators said on 14 July they were almost sure that oil from an electrical transformer somehow found its way into old cooking oil that was recycled into fat for animal feed. It is expensive to properly dispose of oil from transformers. A media report described how fat processing plants collect used fat from municipal recycling parks where consumers drop off their used oil along with other household wastes. The plants also get used fat and oil from restaurants and industrial food plants around Belgium. The plants filter, cook and sterilize the fat which they then compound into blocks sold to animal-feed manufacturers. Media reports were speculating that the transformer oil was illegally dumped into cooking oil somewhere for quick and easy disposal. An executive from a fat processing firm was interviewed and said that in many places where fat is disposed of for recycling, it isn't clear whether the fat will be put back into the food system. He said that the industry was looking into changing their recycled fat collection methods, restricting collection to places that had secure bins of only food-grade oil. Many fat processing companies including Fogra were reported to not test for quality regularly because it was assumed that their vegetable and animal fats were safe.[125]

A report released by the Belgian government 30 June stated the cost of the dioxin crisis to the food industry was $1.54 billion U.S, half from the agricultural sector and the other half from other food industry sectors.[126] This report prompted the cabinet to approve emergency aid of $160 million for farmers and processors in the form of payment for the slaughtering and destruction of contaminated products and livestock as well as interest-free

loans. Farmers' unions, feeling victimized for a problem that was out of their control, were enraged by this aid package and descended on southern Belgium in their tractors to block roads, protesting that it wasn't enough to make up for lowered prices. The EC, whose role is to ensure fair competition within the 15 member nations, rejected the loan part of the package on 28 July and pledged to work with Belgium to develop a new one. Belgian banks agreed to help by offering low-interest loans and insurance companies guaranteed $664 million in loans to farmers at no profit.

The EC drafted proposals 19 July calling for the ban of the use of frying oils in animal feed and imposing more regulations on the largely unregulated feed production and fat processing industries.[127]

The dioxin scare surged in the news again 23 July with the announcement that 233 more pig farms were quarantined after two of the farms had high levels (50 times the allowable levels) of PCBs. The 233 farms may have received feed from one contaminated batch manufactured on 11 March and distributed by another supplier, Versele. Versele received contaminated fat from Verkest. These farms joined the list of hundreds of other farms still under surveillance, 300 of which were already confirmed to be contaminated. These new farms did not buy suspect feed in January and were thus certified safe by the previous government. Their contamination was discovered because the new government ordered a more thorough investigation of the listed farms buying feed after January. The government found high levels of PCBs at these farms in mid-July but waited until the source of the contamination was known before going public on 23 July.[128]

This fueled fear and speculation that the contamination was more widespread and lasted longer than previously thought, although the government was saying it wasn't a new contamination. Following an emergency cabinet meeting, the new Belgian Prime Minister said 24 July that the new contamination was being traced, that this was not a new source of contamination and that no immediate bans were necessary. Three days later, the government announced plans to remove from the market pork products with greater than 20 per cent fat, buying them back at 80 per cent of the price. All pork held in slaughterhouses and depots would be destroyed. Once again, the EC disagreed with Belgium and on 27 July threatened Belgium that it would widen restrictions on its meat and dairy products if it didn't remove all non-certified pork with a fat content greater than two per cent from the market. The EC expressed doubt in Belgium's methods of safety certification and asked why the government's initial search for contaminated feed was limited only to January.

On 29 July, another 175 poultry and pork farms were placed on the restricted list because they were supplied by Versele and had low levels of PCBs (below the World Health Organization limit but above the Belgian limit). The Prime Minister announced Belgium was fully complying with EC rulings and destroying potentially contaminated pork, beef and poultry with more than two per cent fat at an expected cost of $160 million. As well, all pork and chicken exports with more than two per cent fat would be tested until August 31, at a cost of $5.61 million.[129] Prior to this decision, Belgium was testing only those farms on the list but at this point Belgium couldn't guarantee its list of suspect farms was comprehensive. Belgium began looking for laboratories in other countries to help with the testing as its own labs could not keep up. The Netherlands, along with other EU nations, imposed a ban on Belgian meat, citing a lack of information from Belgium as the reason. Other countries had similar complaints about the lack of transparency of Belgium's actions.

Once again, there were disagreements between Belgium and the EC. The EC was pushing for a PCB limit of 100 nanograms per gram of fat while Belgium thought 200 was sufficient. On 6 August the EC also insisted that Belgium test all beef and poultry exports with more than two per cent fat, in addition to pork and chicken. The EC also wanted Belgium to test livestock. In the end, the EC agreed on the Belgium's PCB limit of 200. Belgium protested the EC's demands to inspect beef, calling them groundless, unfair and driven by mad cow fears.

By 8 August, the Belgian government announced its intentions to defy the EC, arguing that testing exports with more than two per cent fat would bring exports to a standstill. Belgium was going to ask for the testing to apply only to products greater than 20 per cent fat.[130] However, by 9 August, after discussions with the food industry and the EC, the Health Minister said that Belgium would abide by the EC's rulings to avoid further clashing and the risk of a total embargo. Belgium was going to appeal the decision to the European Court of Justice and look for ways to reduce the number of tests (4700) through a sampling system.[131]

The EC approved of a Belgian aid package on 16 August that would pay farmers 80 per cent of the cost or market price of their losses. The Belgium government would cover the costs of transportation and incineration

of products.[132] On 25 August, the EC ruled that Belgium had to continue with testing of its exports until the end of September.

The EC approved of another set of Belgian aid packages on 7 September which included $650 million in discount loans offered by the Belgian government and banks. Only farms and firms with a drop in sales of 25 per cent loss over two months or 40 per cent in one month would qualify for these loans.[133]

On 8 September, the EC reaffirmed its intention to bring Belgium to the European Court of Justice, continuing the infringement procedures it began on 21 June. Belgium was still claiming at this point that it did nothing wrong, saying that only a few farms were still under quarantine and that most products had consistently tested negative for PCBs.[134]

An article published in *Nature* on 16 September by Belgian scientists said that the levels of PCBs and dioxins in meat and eggs were low enough to not likely cause harm. Given normal consumption habits, the amount of toxin consumed would have been much lower than exposure levels in previous industrial accidents which released large amounts of dioxin and caused harm. It was estimated that the contamination involved in total one gram of dioxin and 50 kilograms of PCBs.[135]

Belgian newspapers reported on 21 September that a report discussing the weaknesses of the food inspection system prepared by management consultants was presented to the Belgian government at the end of 1998 and wasn't given to Cabinet until March of 1999. No actions based on this report were taken. The report outlined inconsistent inspections, failure of the inspectors to use the tools and sanctions available to them and lack of information about who was supplying feed producers.[136] On 20 September, the newspapers told of another report describing how a waste disposal firm was using wastewater from abattoirs, showers and toilets to produce animal feed, despite this practice being banned since 1987. The EC was investigating similar claims in other member nations.[137] Even as the scandal about dioxin in animal feed was beginning to die down, contaminants in animal feed continued to be in the news.

Back to top

6. Crisis Debriefing: Lessons Learned

The dioxin scandal was a classic example of a crisis. There was a perceived threat to public health, targeting the basic dietary staples and thus affecting everyone. There was intense media coverage and many stakeholder groups were reacting strongly because the stakes were high. Not only health, but reputation, money, political careers and livelihoods were on the line. There always seemed to be some degree of information vacuum throughout the crisis as information was slowly discovered and released. In this vacuum there was plenty of speculation resulting in confusion and loss of control by the government.

The media performed as expected during the crisis, offering up a constant stream of fresh news and speculation and providing a sounding board to all of the government's vocal enemies, including Greenpeace. The media described dioxin simply as a potent carcinogen, even at low levels that can persist in the body for up to 10 years. The media also drudged up examples of past threats to food safety, the most famous being the mad cow scare. The government cover-up also gave the media license to dig up examples of previous government bungling, further damaging the government's reputation.

The crisis was portrayed in the media as a drama, a series of conflicts, resignations, bans, recalls, quarantines, arrests, criticisms and other exciting and newsworthy events. Of the approximately 250 news stories reviewed, only five described the contamination in terms of the level of risk from dioxin to which consumers were actually

exposed. [138,139,140,141] One of these stories was from the Greenpeace point of view.[142] This illustrates that in a crisis, the level of risk is not the major concern. It is assumed that the risk level is high and unacceptable. Given this unacceptable dioxin risk, the only option left for the government was to responsibly manage the risk and to communicate how it was managing this risk. In the effective management of a crisis, it is the actions taken to reduce and mitigate the risk and the complete and prompt communication of these actions that are the most important. The Belgian government took the appropriate actions but failed to properly communicate them.

The media and EU accused the Belgian government of making its first mistake even before the incident became a public crisis. After the test results confirmed that dioxin was in animal feed, the government waited a month - while tests were confirming whether dioxin had gotten into the human food supply - before telling the public about the contamination. The Belgian authorities claimed they did not want to alarm the public until they were sure dioxin had gotten into the human food supply.

This month-long wait was perceived as an irresponsible move by the Belgian government and as a result, it looked guilty from the beginning even though the contamination was not directly the government's fault. The media leapt at the chance of reporting a government cover-up and the public resented being kept in the dark about a public threat and being unwittingly subjected to this threat by the government who was supposed to serve the public. When the government cover-up was made public, it exploded and instantly created a united front of enemies: the EU, consumers, farmers, industry, media and the international community. In the eyes of these enemies, the government had lost trust, credibility and authority so that anything positive and proactive it did was not perceived to be positive or proactive. Instead, the Belgian government was accused of protecting political and business industries more than public health. Although the government did in fact swiftly undertake measures to control the problem in May, these actions were not reported once the story broke and the government was never able to take credit for the work it did throughout the crisis to contain the contamination. Instead, the government, no matter what it did or said during the crisis, was constantly seen and portrayed negatively. Criticisms and doubt drowned out anything the government said and the crisis was very much out of its control.

The EC was constantly monitoring, questioning and criticizing the government's decisions and there was no cooperation, just attacks. This constant clashing with the EC hampered the swift resolution of the crisis and damaged international relations. The result was that extreme measures had to be taken to try and regain trust - minister resignations, massive recalls and culls, import bans – at the expense of the farmers and the food industry and ultimately the government.

The government should have been the first to voluntarily come clean with its story when dioxin was discovered in animal feed on 26 April, even if all the facts and details were not yet confirmed, to show that it was in fact taking precautions, reducing risk and doing everything possible to rectify the situation. The government explained the delayed public announcement by saying that it wanted to be sure that dioxin had gotten into the human food supply. However, in this crisis, waiting until all the information was available was too late, especially when it took four weeks to get this information.

As a result of such poor communication, the government, along with dioxin and the food supply, became stigmatized for its mismanagement of the crisis. The discussion throughout the crisis and the blame were focused on the government and not on the fat processing and feed production industries, which were the real culprits responsible for the contamination. The real issues of the crisis, such as lax regulations in the food industry, were overshadowed by the government's mistakes.

With the June 13 election looming, it was apparent the government was rushing to resolve the contamination problem before 13 June. Between 28 May and 13 June, the government was persistently saying how confident it was that the contamination was a single, contained incident that was under control and that it would soon be completely cleaned up. By 11 June, the government was declaring the food supply to be safe, while the media, the EC and other countries were still doubtful. Thus the government was trying to end the problem before anyone else such as the EC was ready to believe it was resolved. Speculation of contaminated food continued in the news. This created the impression of an overconfident government making hasty decisions and this further eroded the government's credibility.

It was in the best interest for all parties to clean up the contamination as soon as possible. However, rushing the resolution can and did result in an incomplete tracking of the contamination that the new government had to

continue cleaning up. The government's initial investigation and tracing looked at a narrow set of farms, assuming that contaminated feed was purchased only in January. Once the new government was in power, it had the time for a more thorough investigation and found more suspect farms that the first round of investigations had missed. Finding more and more contaminated farms and meat samples throughout the second half of June and July only prolonged the crisis, increasing the amount of lost business and making the contamination seem much more rampant and widespread. The incomplete initial investigation, which was touted as having completely restored safety to the food supply, made the government, its methods and its intentions seem even less trustworthy. The result was an even more alienated industry, public and international community.

There were several factors which complicated the crisis, some of which were beyond the Belgian government's control. These factors served to make the stigma associated with dioxin, the food supply and the Belgian government more difficult to manage. In this day of extensive international trade, a domestic problem became an international nightmare. Because of the large-scale, centralized production and distribution systems churning out food at a high rate and volume, a single-source contamination became a widespread and fast-moving problem resulting in the public possibly being exposed to contaminated food before the government knew of the problem. Poor government regulation, surveillance and enforcement of the oil manufacturing and feed industries introduced risks to food safety. There was a lack of regulatory and communication coordination between Belgium and the EC. The uncertainties surrounding dioxin itself increased the fear of dioxin such as the lack of systematic and rapid dioxin detection, the unknown rate of exposure, the unknown source of contamination, long-term health effects of dioxin, the lack of established dioxin limits in Europe and the black market trading of animal feed.

Without any allies or trust from stakeholders, the government was forced to reconcile between them and was torn between stakeholders with different interests. The government was concerned with tracking and containing the contamination but it also had to serve the needs of importing countries by providing them with information about the safety of its exports. Belgium also had enraged agricultural and retail sectors suffering enormous economic losses, which would eventually be borne mostly by the Belgian government. The EU was primarily concerned with the safety of exports and thus was making drastic demands to ensure safety. It had no problems with placing numerous restrictions on Belgium's products because these restrictions would be crippling a competitor. To serve the food industry by returning products to market as quickly as possible was not serving the public's and the EU's needs of thoroughly cleaning up the food supply. Opposition parties, recognizing the crisis as the way to win votes before the election, seized the opportunity to complicate matters such as implicating chocolate as a possible contaminated food. The government was caught in the middle, pulled in different directions and thus forced to compromise.

The poor performance of the food industry was within the government's control. Failing to act on an early warning of the lack of and poorly enforced regulations in the industry showed poor risk management. The report was however poorly timed, as governments do not traditionally undertake major projects so close to elections.

The dioxin crisis hurt Belgium in many ways: huge economic losses and a damaged food industry but also a badly shaken public confidence in both the food and farming industry as well as in the government itself. The dioxin contamination would have still been a damaging crisis had the government promptly gone public with the crisis. However, the damage and public scrutiny would have likely been focussed more on the faults of the food industry rather than on the government's mismanagement of the crisis.

The weaknesses of the Belgian food and agriculture industry were exposed and Belgium's international reputation was tarnished. This food safety crisis pushed and hopefully will continue to push the Europeans to harmonize and tighten regulations and controls of its agri-food industry.[143] The dioxin crisis played a role in instigating the EC's adoption on January 12, 2000 of the White Paper on Food Safety calling for the formation of an independent European Food Authority.[144] In March, 2000, the EC proposed legislation to tighten up the animal feed regulations and to give the EC more power in enforcing these regulations.[145] The Belgian dioxin crisis will hopefully also show governments the importance of crisis communications and stigma management in minimizing damage to their credibility and reputation. All of these injuries will be felt for a long time in Europe and food safety will remain a very sensitive topic

Back to top

7. Acknowledgments

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Back to top

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Back to top

To Foodsafety Network Homepage