

## Symposium: Food Safety: Assuring Food Safety in a Globalized Market

**264 Quality and safety concerns of outsourced foods.** M. W. Griffiths\*, *University of Guelph, Guelph, ON, Canada.*

The increased global trade in food commodities and ingredients requires a rethink in the way we approach ensuring the safety of these materials. Recent incidents involving feed ingredients produced in China and contaminated with melamine have triggered changes in the attitude of the U.S.A and Canada towards imported foods and have prompted both countries to propose new guidelines and legislation to address consumer concerns. The industry, in conjunction with Codex Alimentarius, also have proposed a new global standard, the ISO 22000 standard for managing food safety in processing plants; with the intent to make it easier for companies worldwide to implement the Codex HACCP system. This standard has been adopted by many companies, including Wal-Mart. Despite these initiatives, a movement has developed to promote locally grown food and this has been supported by the publication of books such as "The 100 Mile Diet" and "In Defense of Food". As well as involving safety and quality issues, eating local food is perceived to be more environmentally friendly. However, as climate changes affect agricultural production we shall be increasingly reliant on global markets which makes it even more important that the safety and quality of imported and exported foods are beyond reproach.

**Key Words:** Food Safety, Imported Foods, Control

**265 Melamine contaminated animal feed recalls.** M. G. Alewnse\*, *U.S. Food and Drug Administration.*

Menu Pet Foods notified FDA on March 16, 2007 of a pending recall due to adverse events reported to the firm. Menu suspected wheat gluten was linked to the problem. Within 24 hours of the company's notification, FDA investigators were at the company's manufacturing sites. Investigators were sent to all involved pet food/ feed manufacturers and to many retailers. In addition, FDA monitored the effectiveness of the recalls. In late March, scientists discovered that the contaminant in the wheat gluten was melamine and related analogs. Later, melamine was also detected in rice protein concentrate. Melamine is an unapproved food additive causing animal foods that contain it to be adulterated. Adding to the complexity of FDA's investigation of the reported adverse events was that melamine by itself is not very toxic, but can cause some damage to the renal system in laboratory animals. By April, there was a strong association between melamine in the kidneys of cats and the contaminated pet foods. The likely toxicological mechanism is that melamine and its analogs are concentrated in the renal filtrate where melamine combines with one of its analogs (cyanuric acid) resulting in crystal formation in, and damage to, the renal tubule. Food producing animals were also exposed to melamine through pet food scraps, but at much lower levels. FDA laboratory specialists screened hundreds of samples of pet food and animal feed for melamine and its analogs. In late April, FDA issued an import alert that required the detention of 11 different vegetable protein supplement products from China. From March to May, FDA received more than 18,000 consumer calls. Protecting the safety of feed and food is becoming more difficult, as the melamine recalls demonstrated that an action taken by only a few protein supplement firms in China could create a nationwide problem. The Menu recall alone involved 60 million packages of pet food from approximately

100 companies. The contaminated rice protein concentrate necessitated the recall of 155 metric tons of pet food. Eventually, a total of 1,051 melamine-related product recalls were conducted.

**Key Words:** Melamine, Recalls, Feed Safety

**266 FDA's food protection plan and import safety plan.** S. A. Benz\*, *Center for Veterinary Medicine, Food and Drug Administration, Rockville, MD.*

As global trade expands and the food and feed chain become more complex, protecting the safety of feed and food is becoming increasingly difficult. The contamination of pet food with melamine in 2007 demonstrated the impact that a few companies can have on the animal feed supply. An intergovernmental task force suggested strategies to improve import product safety that focus on prevention, intervention, and response. For prevention, the government must work with companies to build safety into the manufacturing and distribution processes to prevent harm. If a problem does occur, intervention needs to involve not only the FDA but state and local authorities and foreign governments. The response to an identified problem must be quick and effective to limit any further exposure to humans and animals to prevent additional harm. FDA has an ongoing effort to write process control regulations for animal feed manufacturers that will cover the procurement, receipt, manufacture, and distribution of all animal feed including pet food. Traceability of distributed feed is an important component of the process when an unsafe feed must be located and recalled, diverted, or destroyed.

**Key Words:** Food Safety, FDA, Imported Feed

**267 The global threat of foreign animal diseases and their role in food safety.** T. McKenna\*<sup>1</sup> and A. Torres<sup>2</sup>, <sup>1</sup>*Wisconsin Veterinary Diagnostic Laboratory, Madison, WI,* <sup>2</sup>*Cornell University, Ithaca, NY.*

The term foreign animal diseases refers to a large number of known animal diseases, or new emerging animal diseases that are not present in our country. Many of these diseases have never been found in the US, while many others were eliminated from our nation after long and expensive eradication campaigns.

Globalization has resulted in increased travel and trade at an unprecedented rate. Animals and animal products are traded legally and illegally around the world at increasingly higher numbers and at a faster and faster pace. There are many reasons for the recent increase in frequency and severity of serious animal disease outbreaks: animal industry consolidation; increased density of animals per production unit; decreasing animal genetic variability; mixing of species; environmental degradation; and livestock-wildlife habitat encroachment. Many of these outbreaks have serious public health consequences.

This paper highlights a number of foreign animal diseases that pose a significant threat to human food safety. The most notable recent examples are the emergence of Bovine Spongiform Encephalopathy; of highly pathogenic avian influenza, particularly the Asian H5N1 strain; and of Rift Valley Fever. The increasing human consumption of bush meat harvested from sick or dead wildlife in many parts of the world

has resulted in a food safety crisis leading to outbreaks of anthrax, Ebola and other hemorrhagic diseases.

**Key Words:** Foreign Animal Diseases, Food Safety

**268 BSE: Risk communication lessons learned in North America.**

R. R. Ulmer\*<sup>1</sup>, W. D. Hueston<sup>2</sup>, and A. Millner<sup>1</sup>, <sup>1</sup>*University of Arkansas, Little Rock*, <sup>2</sup>*University of Minnesota, St. Paul*.

The discovery of BSE in North America (Canada and later the US) presented the most powerful lesson in animal health risk communications seen in our lifetimes. From the initial Canadian case of BSE in 1993 in a cow imported from the United Kingdom through the identification of the first indigenous North American case in 2003 and the later “atypical” BSE cases, important lessons continue to be learned and risk communications strategies improved. The seminal lessons are:

1. Everyone eats, therefore food supply issues that involve diseases that affect both animal and human health, like BSE, will garner tremendous media attention for extended periods of time.

2. Making government officials readily accessible to media early and often decreases media skepticism and increases the dissemination of accurate information to the widest possible audience.

3. Multiple “publics” exist and different publics want and need different information, therefore no single set of messages and no single delivery format can ever address everyone’s needs.

4. Planning and practice are critical to successful risk communication strategies and plans must be regularly revised.

5. Outbreaks of disease in other countries offer the opportunity for “vicarious rehearsal” and improvement of risk communications plans

6. Acknowledging what is not known and what is being done to address those remaining questions is as important as sharing what is known.

7. “Never say never” – the progression of disease outbreaks can not be predicted with any certainty and the natural tendency of animal health officials and politicians to share a positive perspective on prevention and control activities will almost always underestimate the number of cases thereby creating mistrust.

8. New science will appear, therefore response strategies and answers to questions may change during the period of media interest. Preparing the media, and hence the public, for these changes will increase credibility of the government and industry officials.