FOOD IMPORT SAFETY MEETING

The Role of Public and Private Regulation in Detecting and Responding to Foodborne Disease Outbreaks

The Center for World Affairs and the Global Economy (WAGE), the Food Research Institute (FRI), and some other groups at the University of Wisconsin–Madison co-sponsored a meeting on “The Role of Public and Private Regulation in Detecting and Responding to Foodborne Disease Outbreaks” November 21, 2011. Speakers addressed respective approaches and lessons learned from recent produce-related foodborne outbreaks in the EU and the U.S. http://eucenter.wisc.edu/

In this symposium, the collaborative project on managing import safety evaluated and compared European and U.S. systems for detecting and responding to foodborne disease outbreaks, with particular attention to produce-related outbreaks.

Dr. Jeri Barak, UW–Madison, reviewed important outbreaks in the past 15 years and noted that *Salmonella* was most often associated with tomatoes and cantaloupes while *E. coli* STEC strains were more often associated with lettuce/leafy greens and sprouted seeds. Produce contamination in domestic outbreaks usually results from preharvest exposure of fruits and vegetables to pathogens present in irrigation water and manure/fecal material or transported by aerosols, insects, or other animals to plants in the field. There is no kill step available during harvesting and processing for produce that will be consumed fresh — except for irradiation, which is not used. Because pathogenic bacteria can lodge in protected crevices and penetrate to the interior of plant parts, it is impossible to wash the bacteria off fresh produce. Sprouts are a particular concern because bacterial concentrations can increase, during sprouting, from $10^2$ to $10^6$ cells/gram in just 2 days.

Dr. Robert Tauxe of CDC made the case for more rapid detection and response to food contamination in order to quickly remove unsafe foods from stores and prevent further cases of illness and death. Factors contributing to a slower response time include long incubation periods for some pathogens, particularly *Listeria*, which delays detection of outbreaks, inefficient processing of clinical specimens in some states, and lack of resources to interview people and collect information on food intake. It may take 2 to 4 weeks from the time of illness before a PulseNet pattern of the pathogen is entered in the database. Two recent outbreak investigations that proceeded fairly rapidly were the 2011 outbreak in Minnesota, Wisconsin, and Michigan traced to *E. coli* O157:H7 in hazel nuts and the 2011 multistate *Listeria* outbreak traced to Colorado cantaloupe. A new strategy for identification of foods potentially associated with outbreaks is the use of shopper cards to identify all the foods bought at a particular store. This helped to identify “bulk Turkish pine nuts” as the source of *Salmonella* Enteritidis in a 2011 outbreak on the east coast.

Procedures for investigating and responding to foodborne outbreaks in the European Union were described by Dr. Jordi Serratosa. Following the 1990s food-related crises associated with BSE and dioxin in animal feed, the EU enacted a new Food Safety Law and organized the European Food Safety Agency (EFSA) and the Rapid Alert System. The role of EFSA is to gather all available scientific information and develop risk analyses for various contaminants and pathogens in different food products. Based on these analyses, the European Union can propose new regulations. However, individual countries retain some autonomy in implementing regulations. Dr. Serratosa noted that Europe places more emphasis on preventing contaminants from entering the food chain by conducting more surveillance at farms and animal production facilities with inspections and testing. The U.S., on the other hand, conducts more surveillance to detect human outbreaks and then works to trace back the contamination to a particular source.