

Testimony Before the House of Representatives Committee on Agriculture

By Dr. Elsa A. Murano

My name is Elsa Murano, and I am currently the President of Texas A&M University. From October of 2001 to December of 2004, I had the tremendous privilege of serving the American people as Undersecretary for Food Safety at the U.S. Department of Agriculture. Prior to my appointment, I had been a successful researcher and educator in the field of food microbiology, working on the very pathogens that have been the thorn on the side of regulators, the food industry, and consumers for many years. When I first arrived in Washington, exactly one week before 9-11, I remember thinking that as the first food microbiologist to serve as undersecretary for food safety, I had a special responsibility, as well as an opportunity, to inject science into the process of making our food supply as safe as possible. By this I meant I would use the scientific method to examine the causes and to arrive at solutions that would minimize food contamination and increase our ability to prevent foodborne illness.

I soon learned that the most significant difference between working on food safety at the laboratory vs. the real world is that the real world doesn't like waiting for results, that crises can happen while you are in the middle of finding solutions to problems, and so one must learn to balance the need to act quickly with the need to provide solutions that will stand the test of time. Such was the case in the Summer and Fall of 2002. We had been working to identify where, in

the production of ground beef, would contamination with the pathogen *E. coli* O157:H7 be most likely to occur, as well as to determine what we could do to minimize it. As we were pondering this, we started to receive reports of several people becoming ill with this pathogen, resulting in one of the largest recalls of ground beef in our nation's history, totaling 19 million pounds. As we worked to control the outbreak, and to determine what went wrong so we could address the problem, we soon received news of several people becoming ill with listeriosis, resulting in one of the largest recalls of processed deli meats in our nation's history, totaling 28 million pounds. We referred to this period as "the perfect storm" because it showed how weaknesses in our system could line up in such a way as to produce the worst results, with multiple outbreaks by multiple pathogens in rapid succession.

I've always been a believer that the worst of times can also become the best of times, because they can be the best teacher. So, I was determined that we would learn from these situations and that those lessons would be the basis for our strategy in order to prevent this from happening again. In assessing the causes, I confirmed what I had known before I even took the position, which is that people can make a tremendous difference. FSIS has almost 8,000 inspectors at over 6,500 meat and poultry processing plants in the U.S., and these folks are responsible for inspecting 110 billion pounds of meat, poultry, and egg products, plus another 10 billion pounds of imported product each year. That translates to 9 million inspection procedures being carried out every year, or a thousand procedures per inspector per year! So, it became evident to me that we needed

to make sure that these hard-working men and women needed to be trained in a different way, in a way that ensured they knew the science behind what they were doing with regard to food safety, so they could do a better job of anticipating problems, and also, that they would be supervised adequately. The underlying idea was to address the human factor so that errors in inspection would be minimized. So, we went to work to design a training program that would help address this, and in April of 2003, we launched our Food Safety Regulatory Essentials program, or FSRE, to help inspectors know how to verify that food safety systems implemented by the companies were done correctly. We also created an Office of Program Evaluation, Enforcement and Review, to improve our inspector supervision activities, and created a new class of inspector, the Enforcement Investigations and Analysis Officer, charged with conducting comprehensive food safety assessments, which could be targeted to specific plants based on their track-record.

Speaking of the human factor, we also realized that over the previous years, meat and poultry processing plants had been left to their own devices to figure out how to implement food safety preventive programs with little oversight by FSIS. In the mid 1990s, the Hazard Analysis Critical Control Points system, known as HACCP, became a requirement of all meat and poultry processing plants, but how it would be implemented was left largely to each plant to determine. Let me explain what I mean. The very first step in implementing HACCP is to determine the types of hazards that are most likely to occur in a specific food. For ground beef, for example, plants are expected to determine whether in their operations, *E. coli*

O157:H7 should be considered a hazard likely to be found in their product. If a plant answers this question with a “no” then they don’t need to worry about it anymore. We found that many ground beef processing plants had in fact answered “no” and therefore, they were not taking direct steps to deal with this hazard. So, in October of 2002, we ordered each plant to reassess their HACCP plans. As a result, 62% changed their operations, and 60% changed their plans to include *E. coli* O157:H7 as a hazard reasonably likely to occur.

The human factor also included consumers, for they are the ones at the end of the food supply chain, and what they do, or fail to do, can also have an impact. So, we launched a comprehensive food safety education campaign, designed to address three elements: a mass media campaign, a cluster targeting to segmented audiences, and one-on-one activities utilizing our brand-new “food safety mobile” which would impart the message of safe food handling practices to various locations throughout the country. Turns out that our mobile was also very useful during the aftermath of Hurricane Katrina, helping New Orleans residents know what to do during the storm and afterwards, and helping distribute safe food and water to those affected.

Besides addressing the human factor, we also knew that we needed to use science to determine what else we could do to prevent contamination wherever possible, and how to control it, as our only other option. At the time of the listeriosis outbreak in the Fall of 2002, we came under a lot of pressure to implement regulations before our risk assessment on this pathogen was

completed. Standing firm, we resisted the temptation to come up with a quick-fix solution before data was available, so we continued our risk assessment work. In October of 2003, our new *Listeria* rule was published, based on the results of our risk assessment. It offered a new approach in which we created incentives for the industry to do more microbial testing, and to implement post-processing intervention technologies that would reduce, if not eliminate this hazard. As a result, 87% of food plants changed their operations, 57% started testing more for the presence of *Listeria*, 27% introduced antimicrobial treatments in their operations, and 17% began using technologies that would eliminate the pathogen after cooking. We also launched a New Technologies Office so that we could streamline the approval process to introduce new pathogen-reduction methodologies as part of the arsenal available to food processors to control microbial contamination.

With these two approaches, concentrating on the human factor and on science, at the end of my time at USDA, we achieved results beyond our wildest dreams. By the end of 2004, we realized a 78% reduction in the prevalence of *E. coli* O157:H7 in ground beef, and a 47% reduction in the prevalence of *Listeria monocytogenes* in deli meats compared with 2002, which you will remember was the year of the “perfect storm”. Most rewarding is the fact that by 2004 we were able to achieve the Healthy People 2020 goals for reduction of illnesses due to *E. coli* O157:H7 six years ahead of schedule! Of course, all this also translated into decreases in other foodborne illnesses, and in breaking the yearly cycle of large single-event recalls of meat and poultry products down to zero in 2003 and 2004.

There were two fundamental factors that contributed to our success. One is the culture that exists at FSIS, which has developed over many decades. It is a culture of commitment to prevention through continuous inspection and enforcement. History will attest to the fact that inspection is “in the DNA” of these incredible professionals. They know what to do, they know it is their responsibility to do it well, and they know that they are there to ensure public health. That is a culture of dedicated professionals which is not easy to duplicate. I would put FSIS inspectors against any other food inspectors in the world. I guarantee they are by far the best regarded among their colleagues, and this is due to a track record that is the envy of the world.

The second factor is that FSIS is guided by legislation that requires daily inspection of meat and poultry products, making it essential for the Agency to have enough personnel to accomplish this task, and enough funding to operate it. The laws I’m referring to are the Federal Meat Inspection, Poultry Inspection, and Egg Products Inspection acts of 1906, 1957, and 1970. By comparison, the Food and Drug Administration, which is responsible for all other foods over which FSIS has no jurisdiction, is directed by the Food, Drug, and Cosmetics Act of 1938, which has no such requirements. As a result, most foods under FDA regulation are not inspected daily and are not subjected to the degree of scrutiny they should. Some don’t see an inspector for years. This has certainly played a role in outbreaks of foodborne illness in foods inspected by FDA, such as tomatoes, spinach, and most recently, peanut butter.

The bottom line is that in order to ensure that we are doing all we can to improve food safety, we need to pay attention to the human factor and to utilizing science, but we need to do so within a culture that understands how inspection works, and which is armed with the regulations to carry out this mission. If I could offer advice to the committee, it would be to allow FSIS and FDA to play to their strengths. The specialty at FSIS is food policy and food inspection, while FDA is primarily a drug and medical device regulatory agency. Perhaps now is the time to consider moving all food-related activities from FDA to FSIS, and allow FDA to concentrate on what it does best, and provide FSIS the regulatory authority and funding to inspect all foods, not just meat and poultry. An alternative that has often been discussed is the creation of a single food safety agency, as a stand-alone entity that would take over the functions of FSIS, FDA, and others like the National Marine Fisheries Service. Before this alternative is considered, I would ask the committee to determine whether the formation of the Department of Homeland Security as a single agency right after 9-11 contributed to the problems encountered at FEMA in the handling of Hurricane Katrina, or whether transferring the import inspection from the Animal and Plant Health Inspection Agency at USDA to the Department of Homeland Security has reduced the number of illegal items introduced into commerce. My point is that forming a single food safety agency would disturb the operations at FSIS and would require the creation of a culture of inspection and enforcement that has taken decades to develop at a time when we need to enhance, not disrupt our food safety system.

I've now been gone from Washington longer than the time I served there. Unfortunately, in that time we have seen some setbacks in the gains we made at FSIS. We have also seen more outbreaks due to consumption of foods regulated by FDA. It is a reminder that we need to be ever vigilant about making sure that the human factor, and the science behind food safety, are paid attention to. This requires leadership and I urge the President to select people to the important positions overseeing FSIS and FDA very carefully. We need professionals with the scientific expertise to understand how to improve public health through risk reduction, and with the decision-making skills and character to do what is right. Thank you so much for this opportunity to give you my perspective. It has been a pleasure, Mr. Chairman. I would be happy to answer any questions you may have.