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The Food Safety and Inspection Service

Then & Now

By Walinda P. West

For Bobby Palesano meat inspection is not just business. It's also personal.

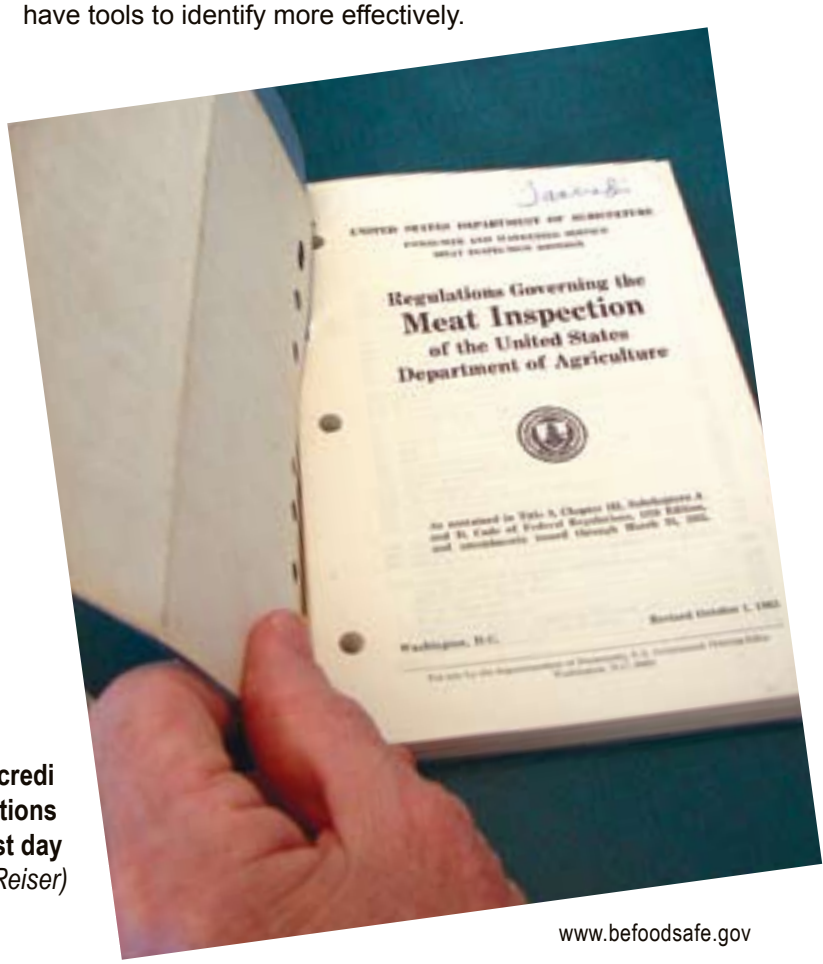
When Palesano began his work in food safety as an inspector four decades ago, his motivation was simple: To have a hand in inspecting the meat his family would eat.

"I knew that if food was good enough for my family, then it was good enough for everyone's family." Inspection program personnel, he said, recognize that the meat, poultry and egg products they inspect could end up on the shelves of their own neighborhood grocery stores.

Palesano, who earned the nickname "Mr. Regulator," worked his way through the ranks at the Food Safety and Inspection Service from inspector to trainer to his present position as Deputy Executive Associate for Policy Development for the Office of Policy, Program and Employee Development. He is considered by his peers an expert on the science-based Hazard Analysis and Critical Control Point (HACCP) plan, which focuses on the prevention and reduction of illness-causing pathogens on raw products. That expertise, he said, comes from understanding how inspection works — from the field to headquarters. Having worked in five slaughter plants, he recalls the former system that primarily relied on smell, sight and touch — organoleptic methods, which were the best approach available for nearly a century.

That old system alone now seems primitive and antiquated, said Richard Van Blargan, who began his career as an inspector and is now Assistant Executive Director for FSIS' Food Safety Institute of the Americas in Miami, Fla. He recalls analyzing by sight such diseases as erysipelas, also known as diamond skin disease because of its characteristic diamond-shaped lesions that appear on hog carcasses, and actinomycosis, termed lumpy jaw, in range cattle.

"If we could see a problem, we could take care of it. But, we would never have been able to detect harmful bacteria by sight like we do now," he said. He lists *E. coli* O157:H7 and *Listeria monocytogenes* as pathogens that inspectors now have tools to identify more effectively.



In the 1960s, employees like Peter Tancredi received manuals like this "Regulations Governing Meat Inspection" their first day on the job. *(FSIS photo by Laura Reiser)*

From agency golf tournaments to the "Lunch Bunch," these career FSIS employees developed lifelong friendships. Golf tournament team members (from left to right) **were Dr. Fred Carmichael, Wallace Leary, Dr. Bob Murphy, Jerry Skufe and Peter Tancredi. In attendance at the June 28 FMIA 100 years celebration in Washington, D.C., were Dr. Dan Vitello, Tancredi, Carmichael, Dr. Joe Blair and Dr. Bill Dubbert. Several of them still gather monthly for lunch with other FSIS retirees in Arlington, Va.** *(Left photo courtesy of Peter Tancredi; bottom, USDA photo by Bob Nichols)*

Priorities have shifted for FSIS from protecting the public's pocketbook to food safety and public health. In the past, inspectors juggled between searching for visible defects on carcasses and offensive odors that might indicate disease, with monitoring the water and fat content in meat to make sure consumers were getting what they paid for. Extra water and fat injected into meat could improperly hike up the cost of products per pound of meat.

But extra water and fat in hot dogs and sausages paled in comparison to the food woes of the early 1900s, which were vividly described in a book written by 28-year-old Upton Sinclair. Sinclair's book, *The Jungle*, exposed squalid conditions in a Chicago meatpacking factory. That book laid the foundation for continuous federal meat inspection in 1906, and set the course for what subsequently became the Food Safety and Inspection Service and the Food and Drug Administration.

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FSIS Lunch Bunch

Many challenging and exciting events in meat inspection since 1906 have helped form strong bonds and collegiality among inspection program personnel. And for some former FSIS employees, the camaraderie remains.

Peter Tancredi, who worked for FSIS and its predecessor agencies for 35 years, Dr. Fred Carmichael and Dr. Joe Blair are part of the "lunch bunch." The third Wednesday of the month, several retired FSIS employees meet at a pizza place in Arlington, Va. They have their place. Down a step, past the buffet, theirs is the table by the last window on the left.

Tancredi and Blair reminisce and compare inspection careers in meat inspection from the "good old days" and today at the Lunch Bunch's favorite pizza place in Arlington, Va. *(FSIS photo by L. Reiser)*

During a recent lunch of the three former employees and two invited guests, Tancredi brought along the regulation books he was given the first day on the job: the yellow "Regulations Governing Meat Inspection," the green "Manual of Meat and Inspection Procedures" and a blue "Service and Regulatory Announcements: Regulations Governing Meat Inspection." The pages are well-worn, but they cover every eventuality in meat inspection. Why does he keep the books? They are memories — good memories of bygone days.

"The good old days," said Tancredi, who now works as a food safety consultant.

Although no one will suggest that the food safety agency was the epitome of racial harmony, there was diversity, as well as friendships, that crossed racial lines. "We were a family and we all cared about each other," said Ada Favors, an African-American who worked at FSIS in the throes of the civil rights movement. She was one of an elite group of secretaries to become a secretary for an administrator. Favors, who has had a knee replacement and suffers from a degenerative spine disease, seldom makes it to lunch outings with the gang, but she keeps in touch with them, remembers their birthdays and knows their families.

From the pizza place — command central of sorts — Tancredi and others who show up for the lunch bunch discuss FSIS, food safety and how things have changed. Most agree that food safety has changed for the better, but for Tancredi, who started out as a GS-3, he sees the work of inspectors today as "somewhat mechanical."

"Inspectors don't enjoy their jobs as much as we did," he said. "It was more hands on, but there's no doubt that food is safer and is heading in the right direction. I give Dr. Barbara Masters credit for moving the agency forward," he said of the veterinarian who is the Administrator of FSIS. "She has held various positions and knows what is needed to continue making FSIS better."

Learning the Job From the Bottom Up

When Carol Allen retired this year after 41 years of federal service, she had worked all over FSIS, starting as a secretary and ending as a foreign travel coordinator. FSIS was the job of her dreams, she said, at least in the beginning.

"Back then people were closer. It didn't matter whether you were in Duluth or Timbuktu. The agency was huge, but we were a family," said Allen. "Before, people would come up through the ranks and knew every aspect of the agency and everybody knew everybody else." Her husband asked her a question one day, and his words still resonate in her head. "He asked me what I would do if things changed? I said things won't change. We are a family." Little did Allen know, things at FSIS were about to change, and just like the impact *The Jungle* had on food safety in the early 1900s, so would a new crisis.

Jack in the Box Changed Everything

In January 1993, when Dr. Wilson Horne, a veterinarian and the Deputy Administrator for Inspection Operations, got a call that hundreds of people who had eaten at a Jack in the Box fast food establishment in the Pacific Northwest were sick, and some succumbed to illness, he got a sinking feeling in his stomach.

"I knew that things would change forever. There was a new administration in place; things were different and it caught everyone flat footed," said Horne, who served as a public face and spokesperson immediately following the outbreak. In the end, it was determined that the 400 illnesses and four deaths were caused by an outbreak of *E. coli* O157: H7. Following investigations, hearings and a public outcry, there was a demand for safer ground beef products, and the unofficial launch of HACCP.

HACCP to the Rescue

The Jack in the Box incident came less than a year after Dr. Ronald Prucha retired from his position as a veterinarian. Before then, as acting administrator, he oversaw numerous workgroups and FSIS stepped up its research studies to apply the HACCP system to meat and poultry inspection, setting the stage for the most significant change in the regulatory philosophy in the history of inspection programs. "We had been working on HACCP for some time, but the notoriety of Jack in the Box forced a quicker finalization and implementation," Prucha said. "As a result of our work together on HACCP, I have no fear of inspected product. With new developments, meat and poultry are safer now than ever before."

Early meat inspectors relied primarily on their five senses to monitor processing operations. An inspector observes packing operations at a plant in the early 1900s. *(Photo courtesy of Peter Tancredi)*

Moving Forward in the Right Direction

You ask almost anybody — retirees and current employees alike — about the future of FSIS and it doesn't take long before the name of Dr. Barbara Masters is mentioned in connection with her ability to take the agency to the next level. "She is doing a great job and please let her know I said that," said Tancredi, one of the lunch bunch who retired more than a decade ago.

Eduardo Ramos, 67, a consumer safety inspector who has been an inspector in Texas since he was 28 and is looking ahead to retirement, feels a renewed energy at FSIS. "I really love what I am doing. I love my work. There are great things happening. I wish I could stay another 10 years."

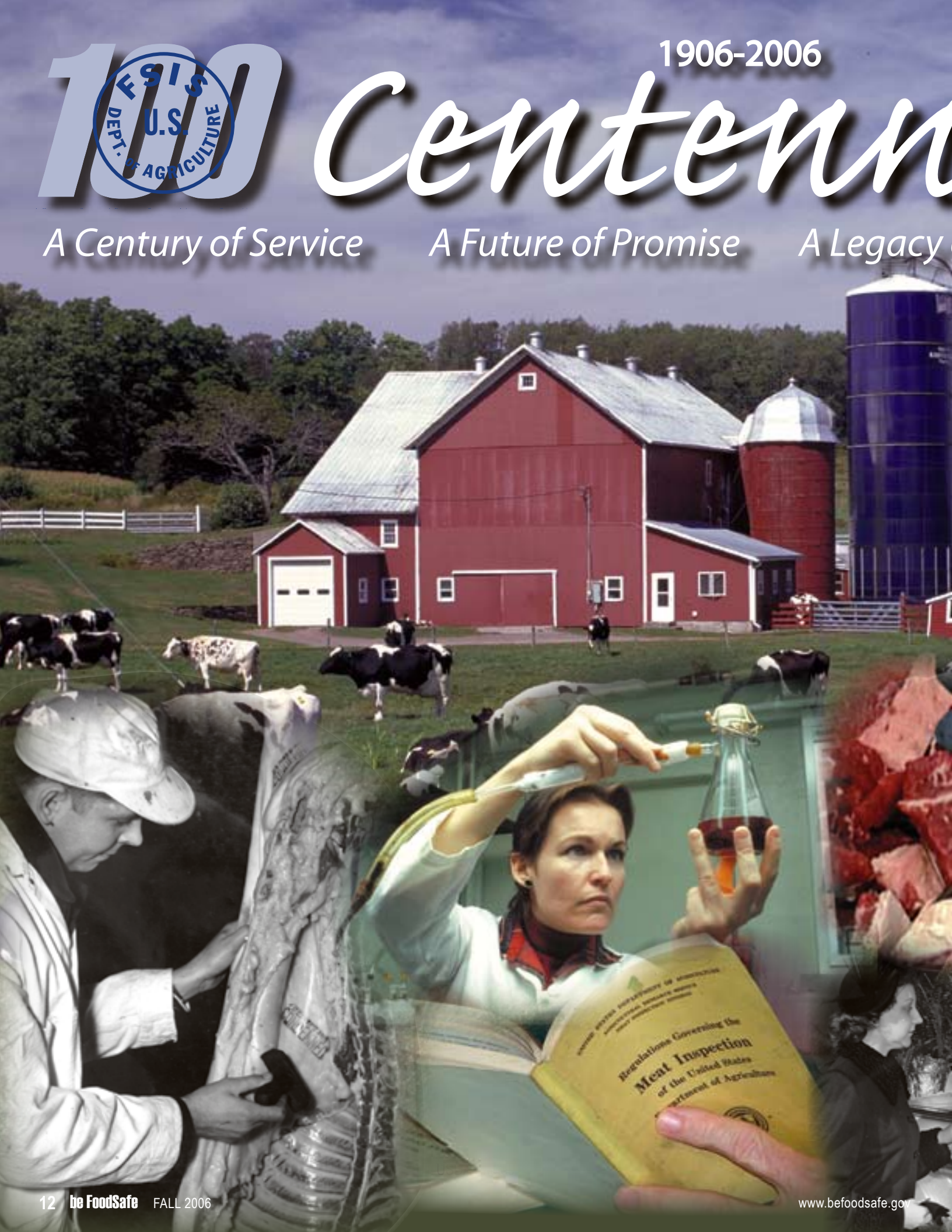
And that's a great compliment to Masters, FSIS' first female administrator, who worked her way through the ranks from veterinary medical officer to administrator — a position she has held the last two years. The fact that Masters is the first woman to hold the top job doesn't faze her.

"I didn't take this job thinking about being the first woman administrator. I took this job because I wanted to do the best job I could to ensure food safety."

Her motivation also comes from knowing that in her effort to make sure that the American consumer has the safest food available, she is joined by thousands of FSIS employees who share the same vision and commitment.

"When I think about this job, I think about the people whose names and faces we may not all know, but these are the people who work every day to make sure the food that we eat is safe. I recognize and value all of our employees because it takes all of us working together to protect public health.

"It doesn't matter what our job titles are because when it comes to protecting public health, all of our jobs are equally important; this is not just a job, it is a passion," she said. And I believe this with *every* ounce of my being."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A Century of Service
A Future of Promise
A Legacy
FSIS
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Regulations Governing the
Meat Inspection

A Century of Progress in FOOD SAFETY

More than 100 years ago, consumers relied on the expertise of the corner butcher for the quality and safety of the meat and poultry they served their families. Today, consumers may still rely on the advice and expertise of their local butcher on the issue of quality. However, on the issue of meat safety — whether they know it or not — consumers rely on the dedication and expertise of more than 7,600 Food Safety and Inspection Service inspection program personnel. With the support of another 2,000 FSIS employees, inspection personnel serve on the front line in an increasingly sophisticated war on pathogens that is taking shape in nearly 6,000 federally inspected plants every day.

The Meat Inspection Act of 1906, later known as the Federal Meat Inspection Act, laid the foundation for the food safety system that today collects and analyzes annually more than 80,000 samples for *E. coli* O157:H7, *Listeria monocytogenes* and *Salmonella* to ensure that America produces the safest food in the world. Initially, the FMIA simply called for the inspection of meat products before and after slaughter, sanitary standards for slaughterhouses and gave the U.S. Department of Agriculture the power to issue grants of inspection to monitor slaughter and processing operations.

A half century later in 1957, the Poultry Products Inspection Act was passed and signed into law. It didn't answer the age-old question of why the chicken crossed the road, but it did require USDA to continuously inspect poultry products that crossed state lines in commerce. By 1970, Congress followed with the Egg Products Inspection Act, adding to USDA's inspection responsibilities.

Evolving Inspection System

The scope of inspection in the United States has been continually changing as new information and technologies become available. The emerging emphasis on science-based policies has prompted major enhancements in the U.S. meat and poultry inspection workforce. As regulations changed to respond to the emergence of new food safety challenges, inspection program personnel have become more specialized and scientifically trained in order to better protect public health.

To strengthen its science-based regulatory approach, FSIS is moving toward a more robust, risk-based inspection system that will allow inspectors to focus their efforts on plants and processes that pose a greater public health risk than others that have more effective controls. This is a far cry from early inspection under the original statutes that relied on sight, touch and smell to determine which products were risky for the public.

"A more robust, risk-based inspection system offers a commonsense, cost-effective public health strategy that best serves the American consumer and the meat and poultry industry by preventing human illness," said Under Secretary for Food Safety Dr. Richard A. Raymond.

In addition to implementing new and more effective ways to prevent and detect pathogens of public health concern, FSIS updated and refined the way it documents the proper handling and slaughter of food animals. The Humane Slaughter Act of 1958 and the Humane Methods of Slaughter Act of 1978 added new oversight responsibilities to FSIS inspection program personnel. Field inspectors began to monitor and direct all humane slaughter and inspection operations. In 2001, the position of district veterinary medical specialist was created and assigned to each district office to ensure humane handling programs are strictly enforced.

"By creating these positions, FSIS indicated that it takes the issue of humanely handling and slaughtering animals very seriously," said Dr. Ata Chaudhry, a district

veterinary medical specialist from the Albany, N.Y., district.

Another example of FSIS reacting to a scientific challenge was the agency's response to a deadly *E. coli* O157:H7 outbreak in 1993 that was traced to a Pacific Northwest hamburger restaurant chain. After a thorough investigation of the outbreak, FSIS declared *E. coli* O157:H7 an adulterant in 1994 and began laboratory testing ground beef for the pathogen.

FSIS also accelerated plans to develop and implement a more science-based meat and poultry inspection system, culminating with the implementation of the Pathogen Reduction/Hazard Analysis and Critical Control Point rule in 1996. The rule became effective in large plants in 1998, small plants in 1999 and very small plants in 2000. This science-based system focused on preventing rather than responding to food safety threats in slaughter and processing facilities. Often called food safety's "gold standard," PR/HACCP forever changed the nature of meat and poultry inspection in this country.

"The principles of HACCP earned the 'gold standard' designation because of their acceptance internationally and because they work when fully implemented and enforced," said Raymond. "However, HACCP plans must be continuously reassessed and adapted to address new science and new situations."

Ensuring Safety of Imported Products

Once again, adapting to a changing global marketplace and the post-9/11 environment, FSIS deployed a specialized inspection force under the Office of International Affairs (OIA). In 2003, FSIS trained 20 import surveillance liaison officers (ISLOs) and assigned them to port cities across the United States to better ensure the safety and security of imported meat and poultry products.

"We saw the creation of ISLOs as an opportunity to bridge the gap between products arriving at points of entry and when new products are presented for reinspection," said Mary Stanley, Director of OIA's Import Inspection Division.

Demonstrating efficiency and interdependence, ISLOs coordinate with agency and other federal authorities to monitor and provide surveillance of imported products entering commerce. ISLOs and import inspectors are responsible for 4.3 billion pounds of eligible meat and poultry products and 8.4 million pounds of eligible egg products presented for reinspection annually.

Training the Workforce

The increasing size of the FSIS workforce and advancements in science and food technology have led the agency to reassess training and education programs to keep up with ever-changing needs. In the early days, training was carried out informally and on the job by experienced inspectors. As inspection increased its focus on science, FSIS looked at ways to effectively train the workforce in scientific methods for food safety.

The agency teamed up with universities to access scientific expertise in training programs for the workforce. In 1987, FSIS established a meat and poultry inspection training program in a partnership with Texas A&M University. This partnership lasted into the late 1990s when FSIS reassessed its training programs to best meet the rapidly changing needs resulting from HACCP implementation. Due to high demand and logistical restrictions, FSIS is now utilizing a regional training approach to deliver programs directly to its workforce.

"This is an innovative approach that allows the agency to train more inspectors closer to their work locations each year in various skills to enhance their technical and regulatory abilities," said Kathleen Leddy, 1 of FSIS' 22 public health training coordinators.

Left photo: **A butcher identifies the USDA mark of inspection for a consumer at a local meat counter. The mark is applied to products after inspectors determine they are safe and wholesome.**

Bottom left: **In the 1952 version of the agriculture bulletin, titled "The Inspection Stamp as a Guide to Wholesome Meat," USDA said that federal inspectors use the "little purple stamp" to mark products that passed inspection.** *(Bulletin research by National Agriculture Library)*

Bottom: **Federal meat inspectors "try hams for soundness," rejecting those with sour odors or other evidence of "unsoundness" in the bulletin. Prior to PR/HACCP, inspectors relied primarily on touch and smell to determine the safety and wholesomeness of products.** *(Photos courtesy of National Archives)*

The diverse needs of its workforce led FSIS to seek ways to deliver training quickly and efficiently. Web-based training, or eLearning, remains a key strategy in training existing employees to continue education with emerging public health practices and skills.

"Thanks to Web-based training programs such as *AgLearn*," said Karlease Kelly, Director of the Center for Learning, "we now have training programs available before the ink dries on new policies."

In addition to workforce training, FSIS has developed an extensive network of consumer education and outreach programs that provide key food safety information that is readily available.

Serving All Food Handlers

Moving into the digital age, FSIS adapted to the changing needs of consumers, the way they seek information, the agency's focus on science-based programs and public health. In 1985, the USDA Meat and Poultry Hotline began offering toll-free service for answering consumer questions related to meat, poultry and egg products. In 21 years, the Hotline, 1-888-MPHotline (1-888-674-6854), has received and responded to more than 2 million calls. Consumers regularly ask everything from "How do I thaw my Thanksgiving turkey?" to "How do I know if I have food that's been recalled?" to "Is the food in my refrigerator safe after the power was off during the hurricane?"

Food safety specialists answer calls on the Hotline, including bilingual specialists who are on hand to better serve Spanish-speaking consumers.

To reach an increasingly Internet-savvy audience, FSIS launched "Ask Karen" in 2004 in conjunction with a newly redesigned Web site. The launch of an interactive component on the FSIS Web site was among the first in the U.S. government. The virtual representative, "Karen," is available 24 hours a day, 7 days a week to respond to personalized food safety questions from consumers worldwide. Hotline specialists continuously update the "Ask Karen" database, which holds more than 9,300 food safety questions and their respective answers.

The need for these and other educational and communications programs is derived from scientific epidemiological studies about foods and the behaviors that contribute to food safety risks. Projects are based on social marketing principles and educational theory, then evaluated with consumer research and focus group testing.

One hundred years after the Federal Meat Inspection Act became law, much has changed in the way FSIS goes about inspecting meat. But the core goals and responsibilities of FSIS have never changed: Ensuring the safety and wholesomeness of meat, poultry and egg products for the American public.

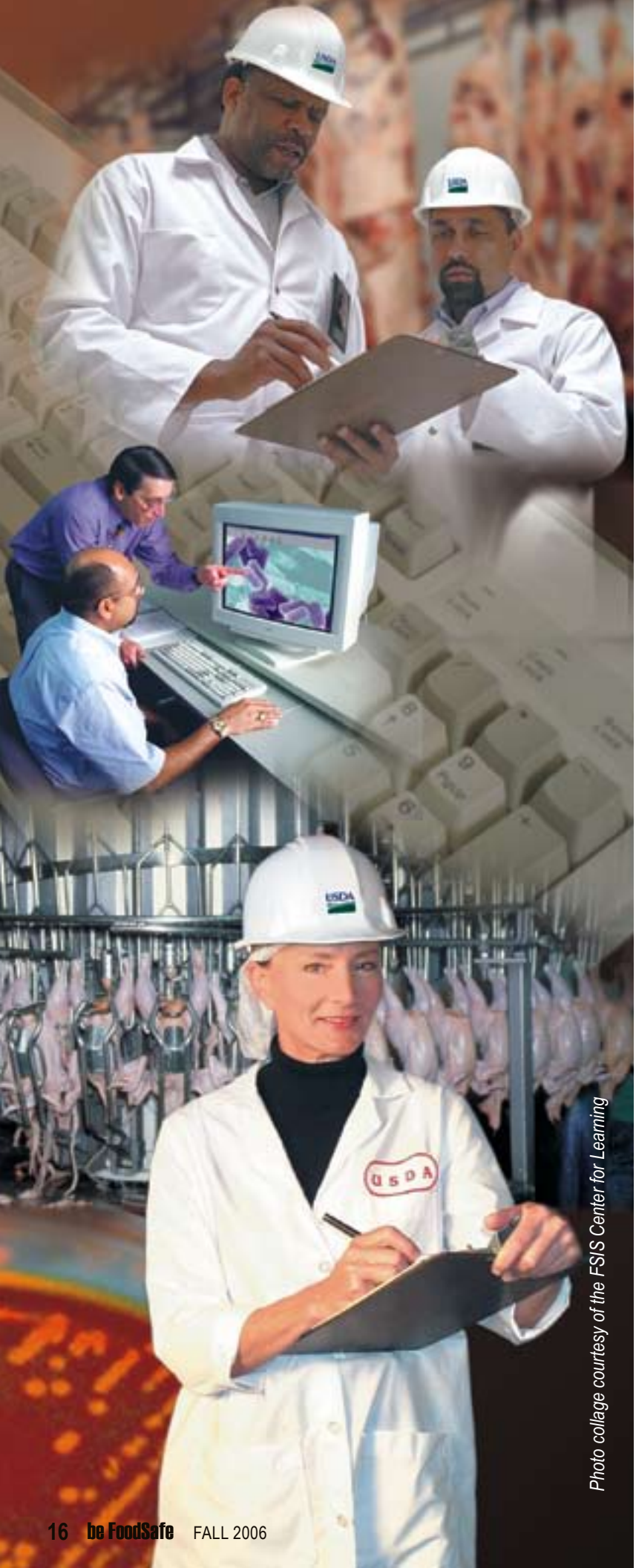


Photo collage courtesy of the FSIS Center for Learning

FUTURE GO

By Keith Payne

With more than 100 years' experience, the U.S. Department of Agriculture's Food Safety and Inspection Service and its predecessor agencies have had their fair share of handling diverse food safety issues and protecting consumers of U.S. meat, poultry and processed egg products. Since President Chester Arthur signed the Bureau of Animal Industry Act establishing the Bureau of Animal Industry in 1884 with an appropriation of $150,000 and 20 employees, the agency has grown to the dynamic organization it is today with a 10,000-plus workforce and nearly $900 million in appropriated funds.

In the early days of inspection, USDA personnel utilized sight, smell and touch as the primary methods to keep diseased animal carcasses from entering the human food supply. This inspection approach was used for nearly a century after the Meat Inspection Act became law in 1906, though later known as the Federal Meat Inspection Act.

However, human sensory organs can only go so far in detecting food unfit for consumption, and the rapidly evolving world of unseen bacteria presented new challenges for FSIS and the industry it regulated. By the 1990s, it was apparent that FSIS needed a new system to ensure that the meat, poultry and processed egg products supply was as safe as possible for the public to consume.

Thus came the Hazard Analysis and Critical Control Point, or HACCP, inspection system. This new system focused on using a preventive and scientific approach to counter the unseen world of deadly bacteria such as *E. coli* O157:H7, *Listeria monocytogenes* and *Salmonella.* "The future demands that we be able to focus more on things that the human eye cannot see, things the nose cannot smell and things the fingers cannot feel," said Dr. Richard A. Raymond, Under Secretary for Food Safety, a physician and longtime public health official.

So far, HACCP has proven to be a success story in preventing harmful bacteria from entering the meat,

ALS FOR FSIS

poultry and processed egg supply. The number of people in the United States getting sick from foods contaminated with *E. coli* O157:H7, *Listeria monocytogenes* and *Salmonella* is down significantly from one decade ago.

According to data from the Centers for Disease Control and Prevention, the number of foodborne illnesses from *E. coli* O157:H7 was down 29 percent in 2005 compared to 1996. For *Listeria monocytogenes*, there was a 32-percent decrease over the same period.

Even though this is encouraging news, FSIS still faces an ongoing battle to protect the food supply from harmful bacteria. Unfortunately, people still get seriously ill from foodborne pathogens that might be linked to products inspected by FSIS. There are still many hospitalizations; missed days of work, school and lost productivity; and even deaths that could be prevented.

One of the biggest challenges facing FSIS is to continue to enhance public health protection. "We are protecting public health through a safer food supply, and I know we can make further progress in fighting foodborne illness," said Raymond. "However, I also know that we have already picked a lot of the 'low-hanging fruit' in the course of making the major strides to significantly reduce foodborne illness. The remaining work to further reduce foodborne illness is going to be a lot tougher, and we are going to need sensible policies based on the most current science available."

Risk-Based Inspection

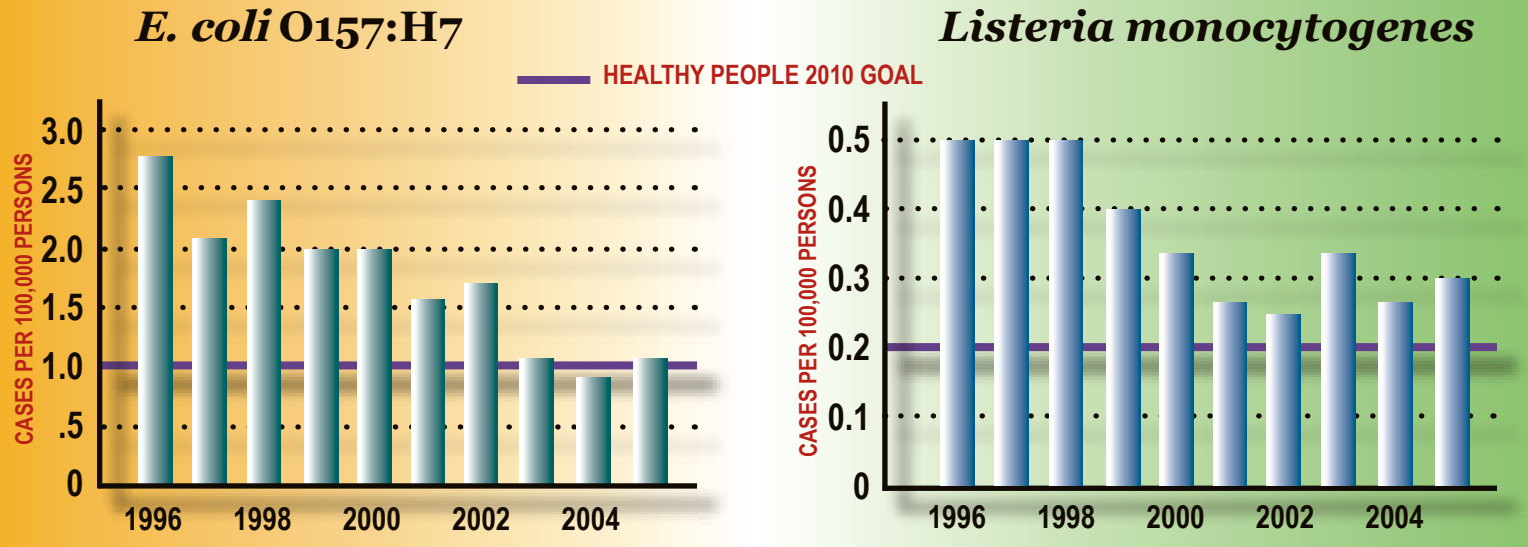
Therein lies the question. How should FSIS take that next step in reaching the "high-hanging fruit" to further advance public health protection?

The answer is in a more robust risk-based inspection system.

While FSIS' current system is strong, it's not suited to the future realities of food safety and public health. In order to have the ability to anticipate and quickly respond to food safety challenges before they affect public health adversely, a significant amount of FSIS' time and resources needs to be focused on preventing human illness, and "not recalling hamburgers, hot dogs or deli meats after an outbreak has occurred," said Raymond.

"Our goal with a robust risk-based inspection system is to find a way to increase our inspectors' time in processing plants, where they could, for example, spend time at a plant that is having difficulty controlling *Listeria*, allowing them to go over our compliance guidelines with the plant's management, review plant records and even conduct environmental swabbing if appropriate," said Raymond. "These are activities that directly relate to improving food safety."

1996-2005 FoodNet Foodborne Illness Incidence Data



According to the CDC, the number of foodborne illnesses from *E. coli* O157:H7 and *Listeria monocytogenes* was down in 2005 compared to 1996. To continue and strengthen this trend, FSIS is implementing multiple risk-based strategies to combat these and other foodborne pathogens.

Marva Brown, a biological laboratory technician at the FSIS Midwestern Laboratory in St. Louis, Mo., pipettes meat tissue extract from bags of processed samples to test for antibiotic residues. Since first implemented, the procedure has been improved and updated to ensure accuracy of the results. *(Photo courtesy of FSIS Center For Learning)*

Support Within and Out

In order to achieve this goal, FSIS needs to have the infrastructure to support a robust risk-based inspection system. "The implementation of HACCP was the cornerstone of this foundation, and then later we developed a risk-based *Listeria* verification sampling program, which was a further step toward our ultimate goal of a robust risk-based inspection system," said Dr. Barbara J. Masters, FSIS Administrator.

These are just a couple steps that led up to this system, not including the ones that remain to be taken to reach the agency's goal. For these remaining steps, FSIS needs full support from three critical stakeholder groups — agency employees, the regulated industry and consumer groups.

"We recognize that each step we take must further protect public health, so we need to ensure that we receive input and have significant dialogue with each of these groups along every stage of this process," said Masters.

Full buy-in is important for the development of a robust risk-based inspection system, as this will ensure that FSIS' resources are used in the most effective and efficient way possible, while providing the agency the flexibility to counter emerging threats or challenges in the future.

Risk-Based Control

Tying in its development toward risk-based inspection is a risk-based control strategy for harmful bacteria like *Listeria* and *Salmonella* in processing plants. For *Listeria*, FSIS conducts less intensified testing in plants that have the best control mechanisms in place for this bacterium and more testing in those that adopt less stringent measures. In essence, plants have an incentive to do more on their own to control *Listeria*.

Salmonella **is the most frequently reported cause of foodborne illness in the United States. FSIS plans to use a risk-based approach to reduce the prevalence of the bacteria at the processing level.** *(USDA Photo)*

Salmonella is the most frequently reported cause of foodborne illness in the United States, causing about 14.5 cases of illness per 100,000 people. The Department of Health and Human Services' Healthy People 2010 goal is to have *Salmonella* infections at a rate of 6.8 per 100,000 people by 2010, which means FSIS and its partnering government agencies have a long way to go.

For the immediate future, FSIS has its sights set on combating *Salmonella* at the plant level. While the agency responds quickly to positive findings of *Salmonella* linked to human illness at any establishment, it plans to use a risk-based approach to reduce the prevalence of the bacteria at the processing level. "We'll be concentrating our resources at plants with higher levels of *Salmonella*, so this will help us be proactive before human illness is associated with our regulated products rather than be reactive," said Masters.

Looking Into the Future

FSIS is looking forward to proactively tackling future challenges with development of its robust risk-based inspection system. This involves strengthening partnerships with all of its stakeholders to further protect public health. Making certain that the nation's food supply is safe not only makes good business sense for industry but also good public health sense.