be FoodSafe™

FALL 2006

U.S. Department of Agriculture
Food Safety and Inspection Service

The FSIS Magazine

100 FSIS U.S. DEPT. OF AGRICULTURE

A Century of Service
A Future of Promise
A Legacy of Public Health

A Message from the Secretary

America offers the most abundant and affordable food supply in the world. More importantly, we have the safest food supply in the world and USDA takes very seriously our responsibilities related to food safety. On June 28, the U.S. Department of Agriculture celebrated 100 years of food safety under the Federal Meat Inspection Act, which was signed into law by President Theodore Roosevelt on June 30, 1906.

Over the course of the last decade, we have seen in product testing a significant reduction in the prevalence of disease-causing bacteria such as *E. coli* O157:H7 and *Listeria monocytogenes*, two particularly harmful pathogens. Recent data from the Centers for Disease Control and Prevention verifies the importance of this by showing significant declines of up to 40 percent in human illnesses caused by these and other pathogens when comparing 2005 rates with 1998 rates. I know that FSIS is firmly committed to even more reductions in the prevalence of pathogens on meat and poultry products as well as to realizing greater reductions in human cases of foodborne illness.

The men and women of the Food Safety and Inspection Service serve as the first line of defense when it comes to preserving the safety of the food supply. But there are many challenges that we still face and that lie ahead of us. The threat of a terrorist attack on the nation's food supply and the potential threat of highly pathogenic avian influenza are just two examples.

How do we continue to successfully deal with these and other challenges that lie ahead?

It takes a workforce of dedicated public servants who are committed to protecting public health through food safety and food defense. I am proud to say that we already have that workforce in place thanks to the conscientious professionals at USDA. It takes a firm commitment to develop and then implement polices and regulations based on the latest science and to most effectively use our resources and authorities to further improve our food protection systems. And finally, it requires a cooperative approach from all those who have a vested interest in the food supply. And, since we are all dependent upon food, this means every single American can play his or her part. From farm to fork, we all play a role in keeping our food safe.

Farmers and ranchers must be committed to raising only the very best — and safest — food products. Food companies and food processors must continue to be vigilant about ensuring that food is processed in accordance with the federal standards that are in place to ensure safety. Consumers can learn about USDA's key food safety recommendations, which will help them to further reduce the threat of foodborne illness at home. The USDA and other government agencies will continue to make regulatory decisions based on sound science and excel in our role as the first line of defense for food safety and food security.

As we begin the next 100 years under the Federal Meat Inspection Act, as well as the other food safety statutes that USDA is entrusted with implementing, we can look back at our history and be proud of the advances we have made. I am proud of the men and women of USDA who contribute to the safest, most secure food supply the world has ever seen.

MIKE JOHANNS
Secretary of Agriculture

FALL 2006

table of Contents

Features

8 FSIS: Then & Now

Explore the changes in food safety inspection and FSIS with a few long-tenured agency employees and retirees.

12 *Cover Story:* Centennial

This century of progress creates a legacy of public health *(badge photo on the cover provided by FSIS Center for Learning).*

16 FSIS of the Future

Protecting public health through partnerships and risk-based strategies is the wave of the future for the agency.

20 Reaching the At-Risk

FSIS is doing more to reach consumers at risk for more serious complications from foodborne illness, and these consumers are ready to adopt safe food-handling practices.

22 Ask Away, Night or Day

"Ask Karen" is the USDA Meat and Poultry Hotline's online virtual representative. Pose food safety questions any time, any where.

Departments

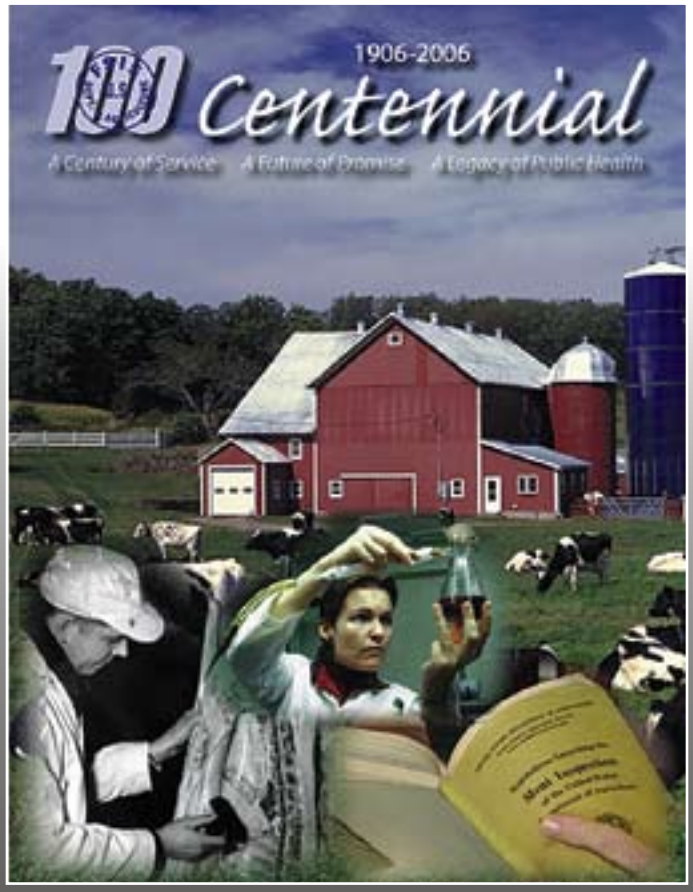
4 From the Under Secretary

5 From the Administrator

6 Around the Agency

19 Photo Album

The hand stamp marking the end of each article was displayed at the 100 years celebration from the collection of Dr. Robert Ragland.



A CENTURY OF PROGRESS IN FOOD SAFETY

In 1906, Congress passed the Federal Meat Inspection Act, laying the foundation for the food safety system that led to the creation of the Food Safety and Inspection Service and to Americans having the safest food supply in the world.

Over these 100 years, FSIS has implemented and improved inspection systems, workforce training and consumer education with the latest science and research to ensure the safety and wholesomeness of meat, poultry and egg products.

Story begins on page 12.

OFFICE OF FOOD SAFETY

under secretary

USDA

Commitment and Dedication to Public Health

As USDA's Under Secretary for Food Safety, I'm certainly glad to see this first issue of *be FoodSafe: The FSIS Magazine*. I hope you'll find this quarterly publication by the Food Safety and Inspection Service to be a valuable public health tool.

USDA Secretary Mike Johanns and I share a passion for public health. I accepted this position last year in large part because I knew of the Secretary's commitment to public health from my experience of working with him in Nebraska for six years. The long history this agency has of protecting public health was another aspect that drew me to this opportunity.

In fact, this year marks the 100th anniversary of the passage of the Federal Meat Inspection Act of 1906, which ushered in a new era of food safety. Even prior to the passage of the Act, FSIS' predecessor agency, the Bureau of Animal Industry, carried out many important responsibilities to protect public health here and abroad. With an appropriation of $150,000 in 1884, its first year, the BAI focused on preventing diseased animals from being used as food. Then, in 1891, the initial Meat Inspection Act of 1890 was amended to cover inspection and certification of all exported live cattle and beef.

Our inspection goals are now driven by our public health goals, and we have come along way in protecting public health.

One hundred years ago in the United States, the life expectancy was 45 years. Now, it is approximately 75 years. Life expectancy was so short then because young children died in high numbers from infectious diseases — enteritis, dysentery, small pox, diphtheria, and typhus, to name a few. Of all deaths, 20 percent were children less than five years of age — now, it's less than 1 percent. Clean water, proper sewage treatment, vaccines and antibiotics have all played important roles, but a safer food supply has also played a vital role in this amazing improvement.

As just one example, the number of persons diagnosed with *E. coli* O157:H7 dropped by 29 percent in the last seven years. This is truly a good story, but our journey is far from over. There is much more we need to do. The Secretary and I want to push the envelope to improve food safety and public health. We all must strive to do better because of constantly evolving threats and challenges to food safety and our public health system.

Having spent my entire adult life in the health profession, I know that the public health environment constantly evolves and it is not a nine-to-five job. Product recalls during off hours and the agency's response in the aftermath of Hurricane Katrina are just a couple of examples of the many instances when FSIS personnel worked many hours beyond their regular tours of duty.

That's why I'm truly proud of and impressed by the dedicated professionals who work for FSIS and for our many food safety partnering organizations. They often put in long hours to ensure that this nation's meat, poultry and egg products supply is the safest in the world. With everyone's collaboration, improving public health becomes a much easier and enjoyable task.

I hope you find *be FoodSafe* a valuable tool. I do believe you'll find new and interesting pieces of information to share with your colleagues, friends and family. Better yet, I invite you to contribute ideas and information to the magazine. We all hope *be FoodSafe* will contribute to improving public health for all Americans.

RICHARD A. RAYMOND, M.D.
Under Secretary
Office of Food Safety

U.S. Department of Agriculture

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Fall 2006

be FoodSafe
U.S. Department of Agriculture
Food Safety and Inspection Service
The FSIS Magazine

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Subscriptions
This magazine replaces the *Food Safety Educator* newsletter. Fall 2006 will be the final free copy mailed to *Educator* subscribers. A free electronic subscription is available through the FSIS Web site. Paid mail subscriptions are available from the U.S. Government Printing Office (Superintendent of Documents). See back cover for price and ordering information. For inquiries concerning paid subscription problems or address changes, send to the Superintendent of Documents, Government Printing Office, Washington, DC 20402. Include mailing label from the back cover for address changes.

administrator FSIS

Meeting Today's Challenges

Welcome to our inaugural issue of *be FoodSafe: The FSIS Magazine*. We are proud to offer you this exciting new publication as the Food Safety and Inspection Service celebrates the 100th anniversary of the Federal Meat Inspection Act of 1906. This issue has a special emphasis on the agency's achievements over the past 100 years, which I hope you will enjoy.

Although FSIS was established under its current name by the Secretary of Agriculture on June 17, 1981, our history dates back prior to 1906. Our mission is to ensure that meat, poultry and processed egg products distributed in commerce for human food are safe, secure, wholesome and accurately labeled. FSIS is charged with administering and enforcing not only the FMIA, but also the Poultry Products Inspection Act, the Egg Products Inspection Act, portions of the Agricultural Marketing Act and the regulations that implement these laws.

Guided by these statutes, we've adapted our programs and activities to meet today's responsibilities. Our challenge is to anticipate and quickly respond to food safety and food defense challenges before they affect public health.

To meet these challenges, we believe an effective food safety and food defense system must be rooted in science. To achieve our public health goal, we'll continue to review policies and regulations in light of what the science demands. We'll proactively make improvements based on available data. We'll also work with all interested parties to modernize and enhance our inspection and food safety and food defense verification efforts in the interest of inclusion and transparency.

Protecting the safety of our meat, poultry and egg products supply is no small task. Approximately 7,600 full-time personnel cover nearly 6,000 slaughter and processing plants. We conduct antemortem and postmortem inspection procedures at 1,700 slaughter establishments to ensure public health requirements are met in processing 140 million head of livestock, 9.4 billion poultry carcasses and about 4.3 billion pounds of liquid egg products on an annual basis. Billions of pounds of meat, poultry and egg products are also presented each year for FSIS import inspection.

Approximately 200 microbiologists, chemists and veterinary pathologists staff three laboratories and maintain the highest international standards of excellence. They are equipped to conduct continuous regulatory testing on meat, poultry and egg products. One is even equipped to conduct analyses on potential terrorism agents.

With our size and with employees and partners all around the country, it quickly became apparent to me that effective communication is central to our mission. I believe *be FoodSafe* will be another effective communication vehicle between FSIS and its many partners. We hope you'll find this quarterly informative and helpful.

In this issue, we provide a broad picture of FSIS and its employees. However, this is *your* magazine, and in order to serve you best, we want to hear your input, ideas and suggestions on how to make it work best for you. Thank you for your support.

Barbara J. Masters
BARBARA J. MASTERS, D.V.M.
FSIS Administrator

around the Agency

By Matthew D. Baun

Seniority Rules!

Somewhere in Minneapolis, there sits an office building with a room and a file cabinet. In that cabinet, there are file folders that contain the names of all Food Safety and Inspection Service employees who are assigned to a field office. One of these files belongs to **Dr. Paul A. Allen**, a federal veterinarian based in San Antonio, Texas.

At first glance, you see that Allen retired from FSIS in 1988, 30 years after he first began as a veterinary meat inspector for the U.S. Department of Agriculture. Then you notice that Allen is still employed with FSIS.

But this is no typo. The fact is, Allen went back to work only a few months after retiring. He is currently the longest tenured employee in FSIS, and in August 2006, Allen began his 49th year as a federal veterinarian at USDA.

Considering the length of his career alone, Allen stands where few others have. That Allen is African-American and first came to USDA in the pre-civil rights era makes his story all the more remarkable.

As an undergrad at Dillard University in New Orleans, he developed an interest in the sciences — psychology, to be exact. Allen then went on to Tuskegee University and made his way to the veterinary school. He applied to the civil service in January 1958 and that August, Allen began work as a USDA veterinarian in a Delaware poultry plant. Before ultimately settling in Texas, Allen was stationed in towns in Pennsylvania, Maine and Massachusetts.

When he first came to USDA in 1958, meat inspection and poultry inspection were under two separate divisions. The Poultry Products Inspection Act had been recently passed and USDA was responsible for its enforcement.

"Because it was a new act, some of the poultry plants figured they could protest the Act by not adhering to its requirements. We had to send a message of how serious we were. We shut down some of these plants for a brief period," Allen said.

As a processing inspector in the early 1980s, **Al Almanza**, now an FSIS district manager in Dallas, worked with Allen. "He is one of the finest, most dedicated veterinarians I have worked for and with during my career," Almanza said. "He has always taken his job with FSIS very seriously and has led by example throughout his career."

So what piece of advice does this 49-year FSIS veteran offer to new veterinary graduates who may be looking to enter the FSIS workforce?

"Vet schools don't teach what it is like to work at FSIS," Allen states in a matter-of-fact voice. "A big part of the job is about public relations. You will be challenged by plant officials and, at times, they can be aggressive and overbearing in their points of view. You have to learn to deal with that." After almost half a century, Allen can deal with it better than anyone else.

Allen has dealt with other challenges as well. In addition to coming from a poor family with little in the way of formal education, he battled an anxiety disorder and a speech impediment. Yet these obstacles did not stand in his way — nor did the more ominous threats of workplace intolerance and racism that he encountered far too frequently in those early years of federal service.

Dr. Paul Allen sits in his office, proudly displaying a wall of recognitions from his career. He is currently the longest tenured FSIS employee, having started with the agency in 1958. *(Photo courtesy of Dr. Allen)*

Ask Allen what his greatest achievement is, he immediately points to his humble beginnings and how he was able to turn the cards in order to "rise to the level of performance that I was able to achieve" at USDA.

More CSIs than CBS?

CSI: Anchorage

It may not be the hit CBS television show, but ask **John Goulet** what it is like to be a consumer safety inspector (CSI) in Anchorage and he will be the first to say that Anchorage is not as remote as people like to think, noting that there are more than 250,000 people living in that city alone. But Goulet does seem to get around.

"I average 100 miles a day right now. One establishment is 140 miles away," he said. But Goulet has also experienced the great Alaskan expanse. One time, he served a 14-week detail at a reindeer slaughter plant on Nunivak Island in the Bering Sea.

CSI: Hawaii

Speaking of islands, **Frederick Marvin** is a consumer safety inspector in the town of Kalihi on the island of Oahu. So just what exactly is the best thing about working in Hawaii?

"Almost everything — it is Hawaii. Even here in paradise, we are doing our part to help protect public health," Marvin said. Okay, then, what are your least favorite aspects? "The median price of a home is $640,000 — absolutely ridiculous. Plus, there is a limitation on how far you can drive," Marvin says. "I can't take a cross-country drive … or even drive around the entire state."

CSI: Saipan

Yet another islander story. The Commonwealth of the Northern Mariana Islands is a chain of 14 tropical islands in the Western Pacific. **Frank S. Tenorio** is an animal health officer with the commonwealth and is cross-licensed as an FSIS consumer safety inspector for the Northern Marianas. Tenorio is assigned to four import plants, three processing and one slaughter plant on the island of Saipan, the capital that has a population of approximately 70,000. Among the attractions are white sandy beaches, lots of golf courses and, says Tenorio, "if you live on the mountain you get to see the sun rise and set from one location." Most rewarding for Tenorio is the opportunity to "protect consumers out here in a remote place. I am very lucky and proud about this program and the fine folks in the Denver District Office and Hawaii circuit. They really help me a lot."

Inspecting the Big Apple

What takes up 17 city blocks and is home to art galleries, $435-per-night hotel rooms and about 19 USDA-inspected establishments? Why, it is none other than the swanky Meat Packing District of New York City, perhaps better known at the Gansevoort Market or the 14th Street Market.

A one-time home to approximately 200 plants, the market district has transformed itself into one of the city's trendiest neighborhoods after a real estate boom that led meat companies to sell their spaces for millions of dollars.

"A great many of the plants moved to different locations like Hunts Point Market in the Bronx and Brooklyn Market in Brooklyn," notes **Michael Washington**, an FSIS deputy district manager in New York City. "There are now upscale boutiques, restaurants, a hotel and bars."

Some neighborhood groups have vowed to preserve the old-time charm of the district's commercial architecture. Think warehouses, metal awnings, cobblestoned streets and a railroad track above the market place, which was once used to bring in live animals that were slaughtered in the market.

Currently, there are no slaughter operations in the market district.

This is probably a good thing for tourists and patrons of the Hotel Gansevoort, who may not care for such sights and sounds from the hotel's rooftop pool and gardens. To its credit, the 187-room, 14-floor luxury hotel, which opened in 2004, has attempted to retain some of the charm and character of the district's earlier history.

Over the summer, you could book a weekend getaway — The Meat Packing Package — on the hotel's Web site. The perks are late check out, access to the pool, with the "first poolside beverage on the house."

So what happens when butchers run into fashion designers on the sidewalk? Washington explains that the market starts at 4 a.m. and usually ceases to be active by 11 a.m. — just past the time when most of the boutiques in the neighborhood open.

What is life like on the ground today in the market district for an FSIS inspector?

Amina Beg, a five-year veteran of FSIS, is an inspector-in-charge at nine different establishments in the market district where the plants produce primal and subprimal cuts of pork, veal, beef, lamb and poultry products. Though there are no retail counters in the market, these companies do supply products to area restaurants as well as others outside the New York Metro area.

What is the least desirable thing about working in Manhattan? "The traffic and parking in the city are challenging every day," said Beg, "sometimes to the point of frustration."

What is the best thing? "The excitement of working in one of the biggest cities in the world … I am exposed to many different types of cultures," she said.

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.

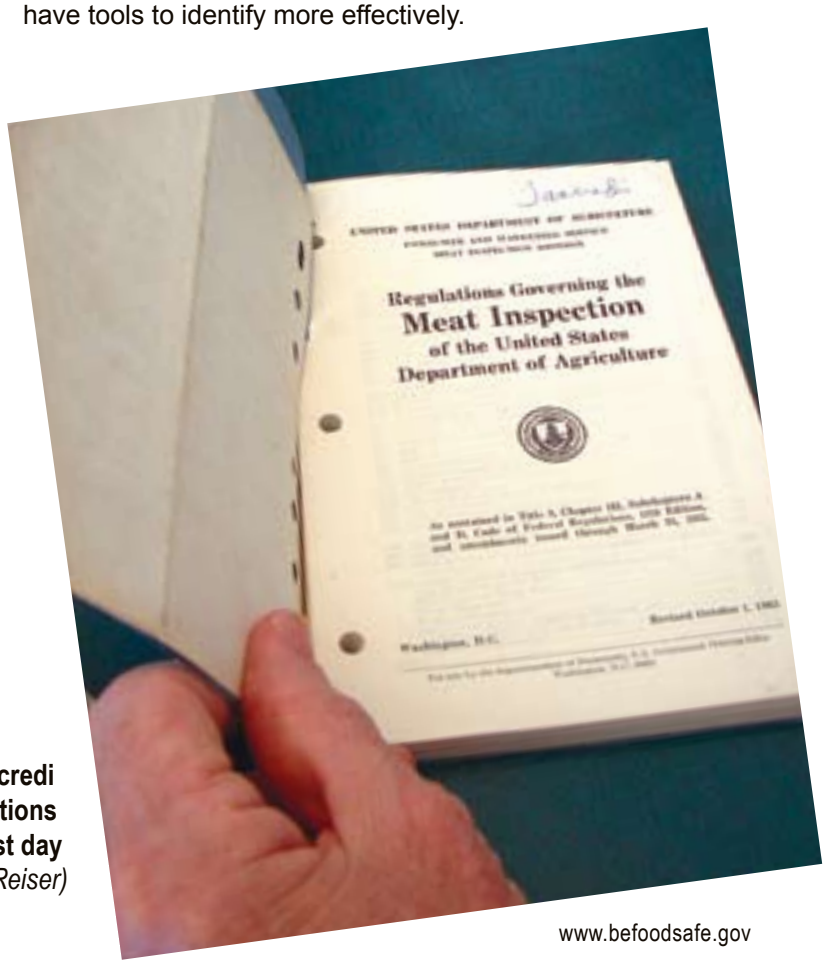
When Palesano began his work in food safety as an inspector four decades ago, his motivation was simple: To have a hand in inspecting the meat his family would eat.

"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.

> "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."

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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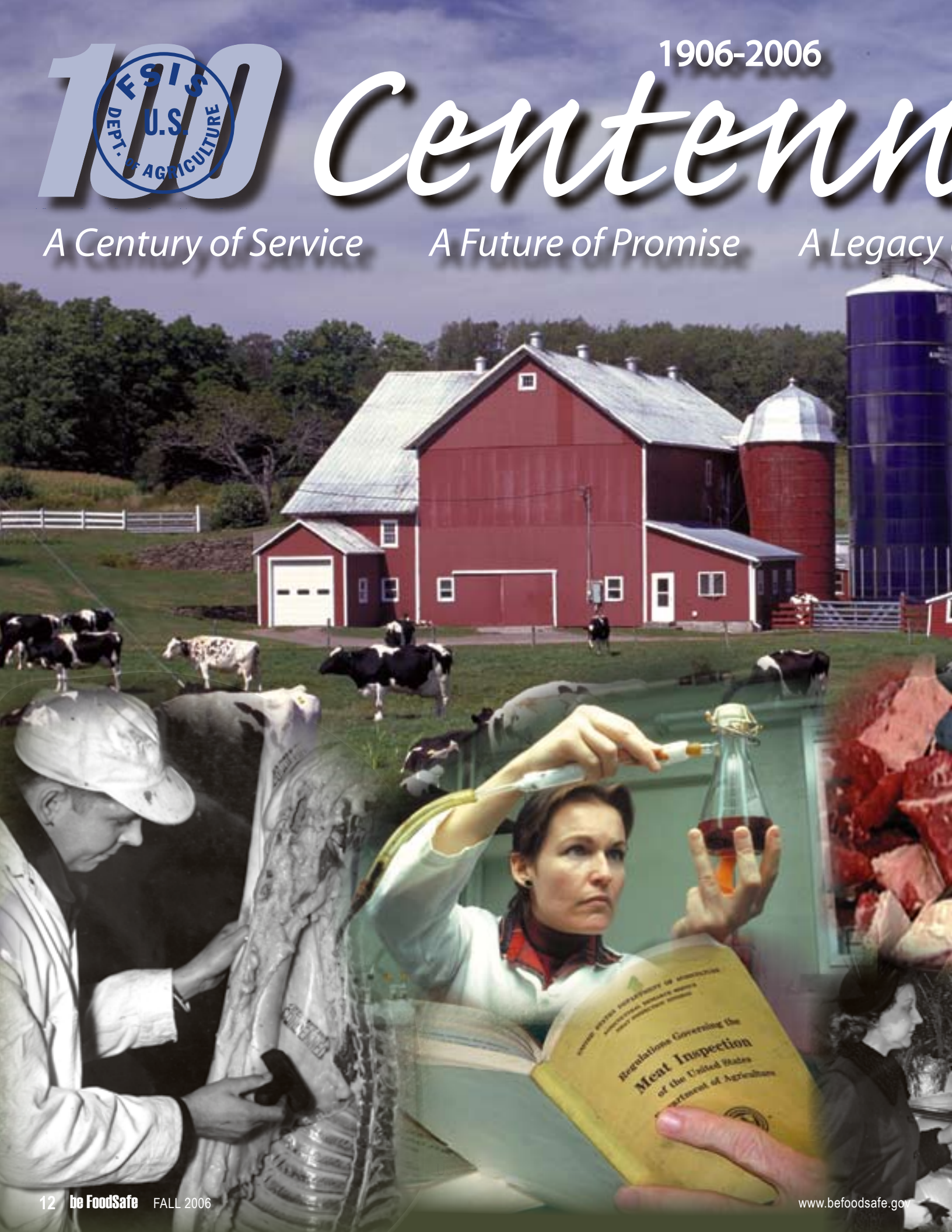
A Century of Service *A Future of Promise* *A Legacy*



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.

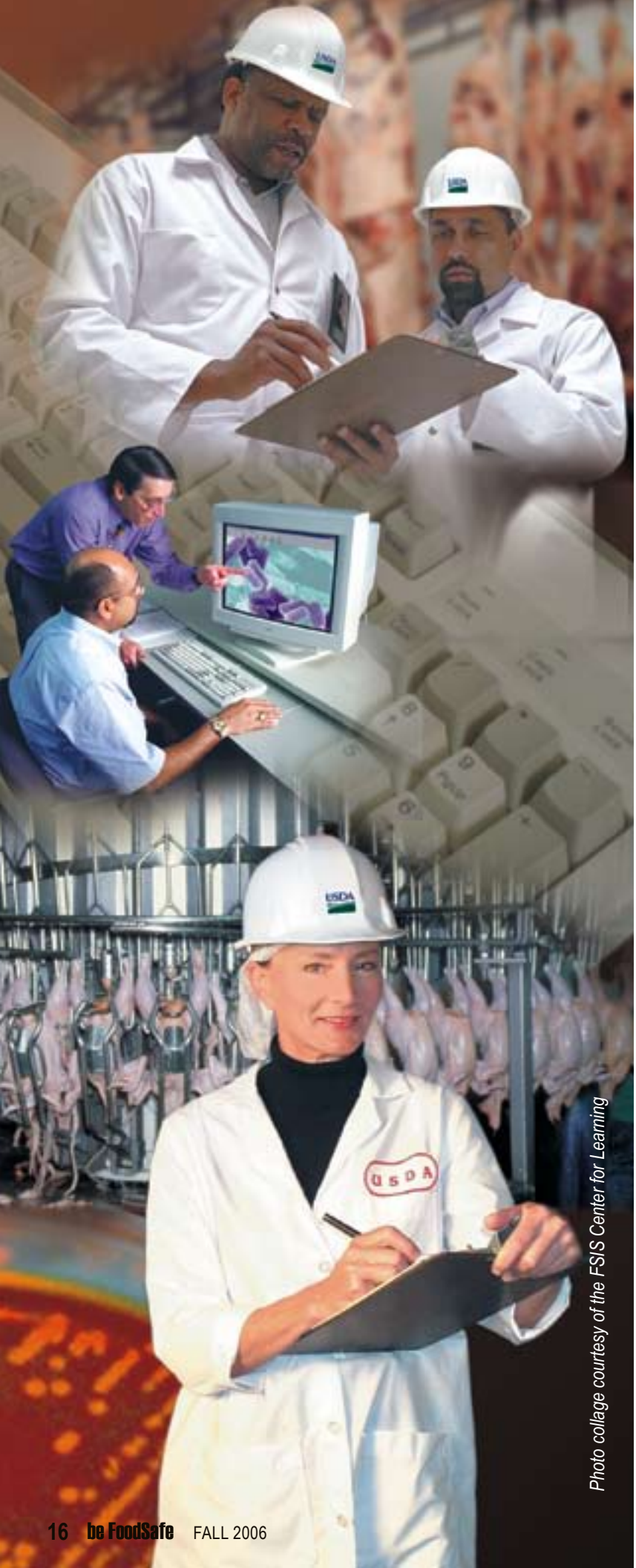


Photo collage courtesy of the FSIS Center for Learning

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

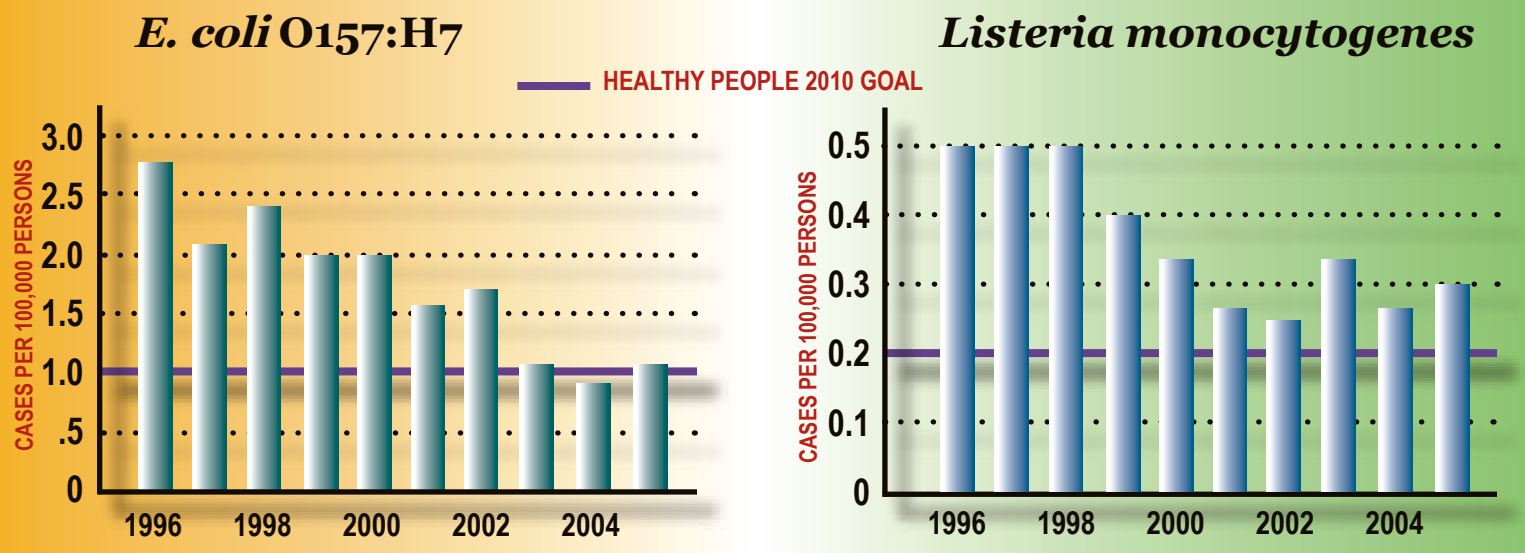
Therein lies the question. How should FSIS take that next step in reaching the "high-hanging fruit" to further advance public health protection?

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, 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.

***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)*

FSIS photos by Laura Reiser

Celebrating 100 Years

The Food Safety and Inspection Service celebrated 100 years of meat inspection by commemorating the centennial anniversary of the signing of the Federal Meat Inspection Act on June 28, 2006, in Washington, D.C.

President Theodore Roosevelt signed the FMIA into law on June 30, 1906, requiring that meat products be inspected and that federally inspected slaughterhouses and processing plants operate under sanitary conditions.

photo Album

USDA photo by Bob Nichols

AT-RISK

Ready to "be FoodSafe"

By Cmdr. Janice Adams-King, U.S. Public Health Service

One in five — yes, 20 percent of the U.S. population are more at-risk for contracting a foodborne illness that may result in a lengthier illness, hospitalization or even death. Foodborne illness, a preventable public health challenge in the United States, poses a greater risk to infants, young children, pregnant women, the elderly and anyone with a weakened immune system.

Reducing one's exposure to pathogens that cause foodborne illness requires action along the entire farm-to-table continuum. For at-risk consumers, it is critical that food safety educational efforts be targeted to address the everyday meals on table — the end of this continuum. These higher risk consumers are ready to listen and ready to change their behavior.

Social marketing research by FSIS demonstrates that implementing culturally appropriate safe food-handling communication strategies effectively promotes safe food-handling behaviors among at-risk populations and/or their caregivers.

For instance, young children who consume a food product contaminated with *E. coli* O157:H7 are more susceptible to acute kidney failure due to a massive breakdown of red blood cells, a condition known as hemolytic uremic syndrome. FSIS research shows that parents of young children, once they are informed, are willing to use a food thermometer to make certain their hamburgers have reached a safe internal temperature of 160º F, hot enough to kill *E. coli* O157:H7.

Spread the Message

Contact FSIS to request this and other brochures from the at-risk series and find out about other targeted food safety outreach tools and campaigns. Call the USDA Meat & Poultry Hotline at 1-888-MPHotline (1-888-674-6854), e-mail the Hotline at *mphotline@fsis.usda.gov* or go to the FSIS Web site at *www.fsis.usda.gov*. At the Web site, consumers with food safety questions can "Ask Karen," the FSIS virtual representative available 24 hours a day by clicking on "Ask a Food Safety Question" on the home page.

A pregnant woman receives dietary counseling at a Women, Infants and Children (WIC) program clinic in Virginia. *(USDA photo by Ken Hammond)*

Consumers, particularly these at-risk populations and their caregivers, are interested in preventing foodborne illness, once they have a better understanding of the risks, behaviors and consequences.

Pregnant women make up another at-risk group. If listeriosis, for example, were contracted and transmitted to the unborn child, then miscarriage, stillbirth or other serious medical conditions may result. Again, FSIS research demonstrates that once informed, pregnant women are willing to modify their food consumption patterns to protect their unborn children.

"Parents of young children told us that health professionals and USDA are the two most trusted sources for information about safely preparing food," said Susan Conley, Director of Food Safety Education at FSIS.

"Public health professionals, including clinicians who interact with these populations, are positioned to be a primary communication channel for providing safe food-handling messages to at-risk populations."

Other groups at risk include infants because their immune systems are not fully developed and the elderly because they have decreased immune and other system functions due to the aging process. These situations make them more susceptible to any infectious organism, and contracting a foodborne illness may result in life-threatening conditions.

Still others who have weakened immune systems due to medication, including chemo- or immunosuppressive therapies and/or chronic disease, such as HIV/AIDS, cancer, or liver disease, may also develop life-threatening conditions such as sepsis and meningitis due to foodborne illness. FSIS found that transplant recipients are willing to improve their safe food-handling practices to prevent contracting a foodborne illness when made aware of risky behaviors and safer practices.

Consumers, particularly these at-risk populations and their caregivers, are interested in preventing foodborne illness, once they have a better understanding of the risks, behaviors and consequences.

"These at-risk groups have a need and desire for food safety information that resonates with them," said Conley. "In response, FSIS has developed a brochure series for specific at-risk audiences to assist them with reducing the risk of foodborne illness to keep themselves and their families safe."

"Ask Karen"

Virtual Food Safety Specialist

By CiCi Williamson

Food safety specialists at the USDA Meat and Poultry Hotline personally answer customers' questions weekdays on the toll-free line. But they're also the brains behind "Ask Karen," the automated information source on the Food Safety and Inspection Service's Web site.

With a database of more than 9,300 food safety questions maintained by the Hotline, "Ask Karen," a virtual representative, or vRep, is available 24/7 worldwide. Because "Ask Karen" never sleeps, she's ready with an answer whenever you have a question.

How can this innovative Web tool help you? Say you forgot to put your dinner leftovers in the refrigerator. Now, you're ready for a 3:00 a.m. snack. But are these morsels still safe to eat? Or, maybe you're traveling, writing a newsletter in the early hours of the morning, and you need the answer to a food safety question. Is there anybody awake you can ask?

It doesn't matter if it's 3 o'clock in the afternoon or 3 o'clock in the morning. Because "Ask Karen" is available on the FSIS Web site, you can type in your question at any time, from any place. Since its launch in April 2004, more than 29,000 customers have done just that and asked more than 91,000 questions.

"More than 20 years of research and experience from the Hotline went into creating the database," said Diane VanLonkhuyzen, the Hotline's manager. "Hotline staff knew what people might ask." This knowledge has grown into the extensive database that is now at Karen's virtual fingertips. In fact, when launched, "Ask Karen" had the largest number of Q&As in the software developer's rollout history. You can be confident that the answers you receive from "Ask Karen" are based on up-to-the-minute information. The Hotline's food safety experts continue to research new science-based answers, often with the assistance of other FSIS divisions.

In addition to responding instantaneously with answers, this cutting edge tool provides links to other Web pages with additional information. Not sure what to ask? Choose questions by category. By clicking the "Help" button, you'll find more than 100 categories from which to choose. Questions in the database relate to meat, poultry and egg products, safe handling, food storage, food preparation, food inspection, food recalls and many other topics.

"Ask Karen" was listed as one of the Government's "Best Practices" at *www.webcontent.gov.* Through this and other venues, "Ask Karen" is used by other government agencies as a model of how to assist the public with finding answers to questions and to help identify the public's needs for food safety information.

"ASK KAREN: I can answer questions from the public about the prevention of foodborne illness, as well as the safe handling, preparation and storage of meat, poultry and egg products, from an extensive database of food safety information."

Q How do I know if my chicken is fully cooked and safe to eat?

A Using a food thermometer is the only sure way of knowing if your food has reached a high enough temperature to destroy foodborne bacteria. All poultry should reach a safe minimum internal temperature of 165° F as measured with a food thermometer. A whole chicken must reach a minimum internal temperature of 165° F throughout the bird. Check the internal temperature in the innermost part of the thigh and wing and the thickest part of the breast. For reasons of personal preference, consumers may choose to cook poultry to higher temperatures.

In Memoriam

Jean Hillery *and* Thomas Quadros

To our dedicated colleagues who exemplified courage, professionalism and commitment and, as a result, gave the ultimate sacrifice to protect and serve the American people. Jean Hillery and Thomas Quadros were pioneers in ensuring public health protection in the United States and we will always remember them for their skill, intelligence and bravery.

FSIS Compliance Officers Jean Hillery and Thomas Quadros and Senior Special Investigator Bill Shaline of the California Department of Food and Agriculture were fatally shot June 21, 2000, while performing their assigned duties at a processing plant in San Leandro, California. *(Photos courtesy of Will Gillingwater)*

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Join the campaign to educate the public about safe cooking and handling of food. For your kit, e-mail *befoodsafe@fsis.usda.gov* or find out more at *www.befoodsafe.gov.*

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