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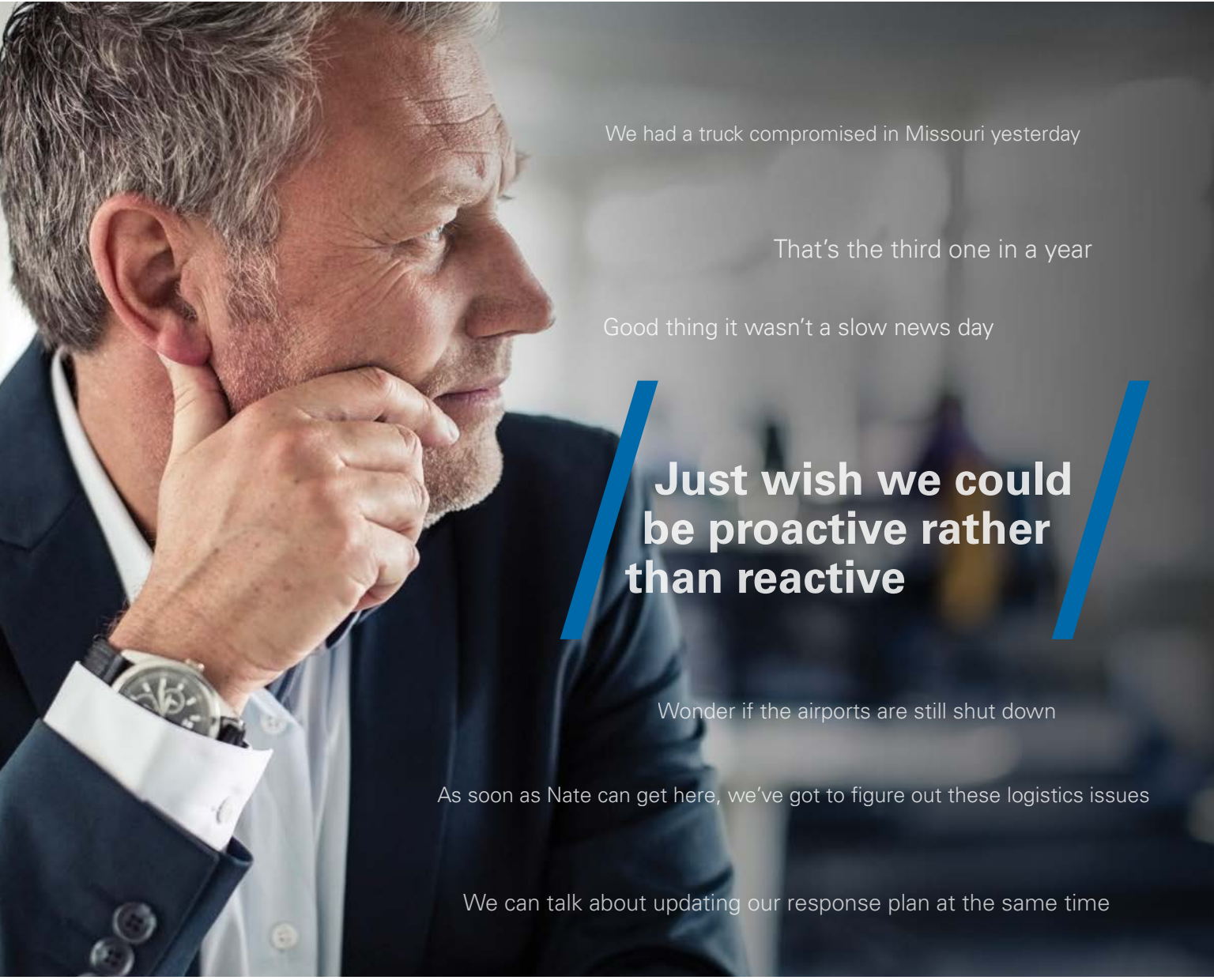
Farm to Fork



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Articles are written by professional practitioners in homeland security, domestic preparedness, and related fields. Manuscripts are original work, previously unpublished, and not simultaneously submitted to another publisher. Text is the opinion of the author; publisher holds no liability for their use or interpretation.

Editor's Notes

By Catherine Feinman

Protection of food supplies goes well beyond the companies and agencies dedicated to the task. The cost of not taking sufficient precautions will affect the bottom line and overall success of many businesses and special events around the world. Since food is not an option, the importance of a whole community effort to protect it is obvious.

In this month's issue of the *DomPrep Journal*, authors provide valuable insights, suggestions, and tools, not only for protecting the food supply itself, but also for creating communities that are more resilient. Amy Kircher leads the issue with a communitywide call to action. With the distance between the "farm" and the "fork" constantly growing, there are many opportunities for intentional contamination. The "Food Defense" report, with a foreword by Kircher, goes further in depth on this very important topic.

When incidents related to the food supply occur, the primary concern is the safety and health of the affected communities. As a variety of security concerns surround the upcoming 2014 Olympic Games in Sochi, Russia, Michéle Samarya-Timm shares lessons learned from the 2012 London Games, where organizers were responsible for preventing intentional and unintentional contamination of an estimated 14 million meals. Don Hsieh illustrates the magnitude of such tasks – especially considering the number of stops along the food supply chain and the lack of serial numbers or other identifying marks to track specific products. Kelly J. Hamilton describes some of the innovative and successful programs and exercises used to protect New Mexico's chile and other agriculture products.

In addition to public health concerns, there are many potential operational and economic consequences of food-related incidents. Recovery from such incidents begins during the planning stage, as emphasized by Wm. Mark Cosby. Although early planning meetings and training exercises take time, Joseph Cahill weighs the cost of one day of daily tasks against the cost of one day of recovery from an incident.

Food defense is everybody's responsibility, but there are programs, tools, and planning guides available to help stakeholders begin the food protection process. Jason Bashura provides a list of the U.S. Food and Drug Administration's food defense activities that have engaged stakeholders both inside and outside the United States over the past 12 months – including conferences, meetings, exercises, tools, resources, programs, and publications. In addition to these resources, Kay C. Goss offers detailed checklists of security measures that agencies, corporations, and individuals should take to protect both the public health and the economic livelihood of the nation.

According to the U.S. Department of Homeland Security, the nation's Food and Agriculture Sector is composed of primarily private companies – 2.2 million farms, 900,000 restaurants, and more than 400,000 registered food manufacturing, processing, and storage facilities. Accounting for approximately one-fifth of the economic activity in the United States, this critical infrastructure sector plays a key role in the nation's overall resilience. To sum up the whole community approach to the resilience challenges that currently face the nation, the audio of Thad Allen's informative presentation, along with the views of other public and private sector leaders, is available in the Resilience 2013 webinar.

About the Cover: As technology, communication, and transportation improve, foods are traveling greater distances - from origin to final destination - than in past generations. However, with greater variety in food selection comes greater opportunities for intentional and unintentional contamination of the food supply.

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Call for Help – Defending the Food Supply

By Amy Kircher, Emergency Management

U.S. efforts to protect the homeland rapidly changed after 11 September 2001. Although some may have considered the possibility of terrorists using a commercial airplane as a weapon or the mail being a convenient carrier of a biological agent, the successful execution of such events was beyond most people's comprehension. The 9/11 and Amerithrax attacks in 2001 forced the preparedness and response communities to collectively consider and prepare for low-probability, high-consequence events – including remote and previously inconceivable threats. After those attacks, funding was available to assess, analyze, and exercise the effects these threats would create.

Low Probabilities, But High Consequences

With much time between 2001 and 2014, the response structures have evolved and the funding scenarios have changed. The limited economic environment at all levels of government presents new challenges for maintaining critical infrastructures. Currently, there is a need to examine the low-probability versus high-consequence ratio carefully and allocate restricted dollars responsibly. In the Food and Agriculture sector, a multitude of factors complicates this task; food comes from a complex system of systems with challenges presented through global production and rapid transport.

What makes up an average evening meal has likely traveled hundreds if not thousands of miles before it appears on the kitchen table. The global movement of food products has greatly increased both the quantity and diversity of what is available on grocery store shelves. Unfortunately, this also increases the threats to the nation's food supply from intentional adulteration. Although people can choose to not fly or to live great distances from a nuclear power plant, they cannot opt out of eating because food is necessary for survival.

There is evidence of "bad actors," with varied motivations, adulterating food. Authorities have uncovered plots to use food as a delivery mechanism for weapons of mass destruction and, unfortunately, have had food system adulteration as the result of terrorism. Those who alter food products for economic gain – referred to as "economically motivated adulteration" – pose a significant threat. Although not trying to do harm to the health of humans and animals, economically motivated adulterators have created significant public health concerns – for example, adulteration using melamine. Threats from both terrorism and economically motivated adulteration illuminate the need for the preparedness and response communities to stay ever vigilant in protecting the food supply and rapidly responding to system disruptions.

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Proposed Rule & Whole Community Approach

The preparedness community – including first responders, law enforcement, medical and public health professionals, emergency planners, government officials, and private sector professionals – has a role in the defense of the food system. Although the infrastructures in place readily handle traditional food safety events, preparing for and responding to an intentional food contamination require the expertise and experience of the whole community. Since 2001, many accomplishments and communities are becoming more interdisciplinary in nature. Although planners, responders, and receivers are actively working to close identified gaps, work remains.

Last month, the U.S. Food and Drug Administration (FDA) released a proposed rule establishing requirements for domestic and foreign food facilities to protect the food supply from intentional contamination. This proposed rule partially fills a gap in policy and guidance regarding specific intentional threats to the food system.

The FDA's *Focused Mitigation Strategies to Protect Against Intentional Adulteration* is the sixth rule that has been proposed under the Food Safety Modernization Act. Once finalized, the rule will require food facilities to have, among other things, a food defense plan that addresses vulnerabilities in the food operation. Using a risk-based approach, FDA's proposed rule targets processes that are most vulnerable to attack – including bulk liquid receiving and loading, liquid storage and handling, secondary ingredient handling (where ingredients other than the primary ingredient of the food are handled before being combined with the primary ingredient), and mixing and similar activities.

FDA noted that this rule and efforts to protect against intentional adulteration require a shift in perspective from traditional food safety. As with other threats, those intending to cause harm or create economic gain through food adulteration evade standard detection systems. Recognizing that this rule is filling a previously unmet gap in regulation to preventing intentional contamination, the FDA seeks public comment on the proposed rule.

The Preparedness Community's Call to Action

The preparedness community has unquantifiable hours of experience in protecting the homeland. For example, emergency planners have been involved in writing plans, conducting risk assessments, implementing preventive controls, as well as training and exercising catastrophic scenarios. Planners can share their expertise to help improve food system defense by:

- Reviewing and providing comment to the FDA's proposed rule to mitigate the intentional adulteration of the food supply. Comments to the FDA are due by 31 March 2014. The proposed rule and instructions for commenting are in the Federal Register.

- Determining how their communities would respond to an intentional attack on the food system: what their roles would be; what, if any, preparedness plans are in place for an intentional food event in their communities; how the food industry will be integrated to support detection and aid response to an intentional food contamination.

The food system is an infrastructure that no nation can ignore. As communities identify and address the risks and vulnerabilities within the food supply chain, the preparedness community has much to offer to help protect against the intentional adulteration of food. The first step to protecting the food supply is to learn what is happening locally and to share valuable information.

Amy Kircher, DrPH, is the director of the National Center for Food Protection and Defense (NCFPD), a Department of Homeland Security Center of Excellence, and an assistant professor in the College of Veterinary Medicine at the University of Minnesota. She leads and coordinates a research consortium of experts dedicated to protecting the food system through research and education. Her current research includes identification and warning of food disruptions through data fusion and analysis. Before coming to the University of Minnesota, she held epidemiologist positions at NORAD – U.S. Northern Command and with the United States Air Force, where she worked on health informatics, biosurveillance, and data analytics. She has an extensive background in homeland security and defense, supporting preparedness and response for real-world and exercise events to include Hurricane Katrina and H1N1. She completed her doctorate in public health at the University of North Carolina – Chapel Hill.

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Food Processors – Recovery Before a Recall

By Wm. Mark Cosby, Building Protection

Food emergencies of all types, including intentional food contamination, have four distinct phases: prevention and preparedness, detection, response, and recovery. Although arguably one of the most important elements of a food emergency, incident recovery is usually absent in planning and funding compared to preparedness, detection, and response. Without a reliable recovery policy, food processors will likely have poor recovery outcomes following any disaster.

Poorly managed recoveries can lead to the closing of businesses, lawsuits, bankruptcy, loss of economic productivity, and unemployment. Perhaps most importantly, any missteps in the recovery phase also may lead to loss of consumer confidence in a commodity or the food supply in general. Additionally, the public could lose faith in the ability of food regulatory officials to ensure that products in the marketplace are safe.

Spinach & Tomatoes – Two Cautionary Examples

In September 2006, for example, *E. coli* O157:H7 caused a spinach recall that prompted a serious decline in sales for all bagged spinach products regardless of recall status. *USA Today* reported in November 2007 – one year after the recall – that the spinach industry experienced a 350 million dollar loss and a 20 percent reduction in sales from pre-recall levels.

Likewise, the tomato (and later pepper) recalls in the summer of 2008 – finally traced to *Salmonella enterica* serotype Saintpaul adulterated peppers from Mexico – cost Florida tomato growers an estimated $500 million, according to the *Herald Tribune* in July 2008. There was an additional loss of $200 million to the produce industry in general as consumer demand dropped for fresh produce. Many people directed the blame toward the poor response and recovery actions of U.S. Food and Drug Administration.

With unintentional foodborne illness outbreaks able to cause such widespread economic and social effects, the impact an intentional contamination incident would have on the safety, security, and public confidence of the food supply could be devastating. Therefore, it is in the best interest of food processors and the industry in general to develop recovery plans before an incident occurs. This will facilitate an efficient and speedy return to production and help alleviate the public's confusion and possible mistrust of both the processor and the product. A recovery plan is also a requirement of the Food Safety Modernization Act (Section 1, Title 1, Sec. 103. Hazard analysis and risk-based preventive controls).

Features of a Recovery Plan

Characterization of the Incident – It is important to determine if the contamination incident is accidental or intentional. If industry authorities suspect an intentional act, then law enforcement needs to be involved. At that point, law enforcement agents must approve any pre-planned recovery actions before processors may implement those actions. This ensures the preservation of any evidence for future prosecution. Discussions with local and state law officials would be helpful in developing a comprehensive and effective recovery plan.

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Clearance Goals – The goals and expectations of the recovery plan, in the case of a bacterial pathogen, is to validate the elimination of the contaminant, but sterility of the facility is not achievable. To determine clearance goals, there are several key considerations, including but not limited to: (a) the allowable level of bacteria within a "sanitized" facility; (b) the requirement for analysis of total bacteria load in the facility versus the demonstration and verification of sound cleaning and sanitizing procedures; (c) the requirement for waste storage and disposal; and (d) the specific requirements of local, state, and federal officials that must be met before the recovery process is complete and normal production continues. When such goals are being set, producers must keep in mind the recovery plan needs to ensure that they reduce the residual risks to a minimum to satisfy regulatory officials as well as customers and the public.

Site Containment and Preparation – After discovering a contamination incident, it is vital to identify and isolate the contaminated building(s) or area(s) within the building as soon as possible. For small facilities, this may mean shutting down the entire production process area, whereas for large facilities this could mean isolating only the contaminated area and restricting traffic between this area and unaffected locations within the plant. It is likely that production would continue in unaffected areas as long as there is no possibility of cross-contamination from the affected area.

To avoid cross-contamination, temporary structures made of lumber or metal covered with plastic sheeting, tarps, or other materials may be necessary around the contaminated area to eliminate airflow between affected and unaffected areas. The possibility of contamination also may necessitate erecting a roof and sealing all seams on the floor and walls to contain dust and organic matter within the area during the cleaning and sanitizing processes.

Authorities may need to establish a specific entry to and exit from the contaminated area – with proper decontamination controls such as hand-wash stations, footbaths, and appropriate-level personal protective equipment – before permitting anyone to enter or exit the contaminated area. A personnel monitor at each entrance/exit point would ensure that all workers, including outside contractors, are following the specific rules of restricted access to the area. In addition to a training program for establishing sanitary guidelines for all persons expected to monitor or enter the contaminated area, all workers must receive training for any changes in safety procedures required during the recovery process.

A successful recovery outcome following any disaster requires a reliable recovery policy. Food processors cannot wait until after an incident occurs – when time is critical and mistakes are costly – to create such policies.

Sanitization and Decontamination – The sanitizing and decontaminating process begins after isolating the contaminated site. When using tools and equipment during the remediation process, workers must sanitize them before entering the containment area and, ideally, leave them in the area as dedicated tools for the remainder of the recovery process. If this is not possible, there must be an established protocol that employees and outside contractors must follow for sanitizing tools and equipment before entry and exit. When sanitation requires equipment removal, there should be a specified area located away from the usual cleaning area for equipment parts.

Sanitizing during the recovery process may be more intense than normal production cleaning and sanitizing, so plans should address this possibility. For example, cracked flooring or walls may need repair; equipment that workers cannot reliably decontaminate may need replacement; and floor drains may need reconstruction. To choose the types of cleaners and sanitizers, producers should evaluate some of the newer sanitizers such as gaseous chlorine dioxide, ozone, and vaporous hydrogen peroxide. These gaseous compounds may be the only sanitizer type that will adequately decontaminate processing equipment in enclosed areas.

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Decontamination Verification – Verification could well be the most important step in the entire recovery process. Not only do regulatory officials need to give their approval before reinstating normal production, the producer must convince customers and the public that the processor has: (a) solved the problem; (b) taken steps to improve and protect the production process; and (c) ensured that the product is safe.

The most common verification is environmental sampling. Workers use sterile sponges or swabs to collect samples, which they send to a laboratory for contaminant analysis. Although many producers have an environmental sampling program as part of the normal sanitation process, the producer should collect many more samples in order to verify the recovery protocol. For example, adenosine triphosphate (ATP) bioluminescence could be helpful to evaluate the cleaning process but is not sufficient for sanitizing verification.

There are certain swab products on the market, similar to ATP bioluminescence types, that will enumerate total bacteria, coliforms, and *E. coli*, as well as be helpful in verifying sanitization and decontamination, but verification requires the producer to show the area is contaminant free by all reasonable standards. Even with such swab tests, the producer still may have to hold and test the first several production runs to complete the decontamination verification.

Communication – Producers should designate one specific group or individual to handle all communications, be it safety issues with employees, regulatory officials, law enforcement, or the media. It is important to have a single spokesperson to ensure complete, non-contradictory, and consistent information and updates when addressing the media, the customers, and the public. Public opinion will quickly erode if communications are confusing or uncertain.

Conclusion

Regardless of any requirements of the Food Safety Modernization Act, having a recovery plan to manage product contamination is good common sense. Such actions will limit the time required to restore the facility and will show regulatory officials, customers, and the public that the company is proactive in fixing the problem and has a genuine concern for public safety.

Wm. Mark Cosby has a MS and a Ph.D., both in microbiology. He has been employed by the Food and Drug Protection division of the North Carolina Department of Agriculture and Consumer Services since 2001. He started as the Chief Microbiologist for the division and currently serves as Agriculture Programs Specialist. He is also a Subject Matter Expert for the division's Rapid Response Team. In 2011 he was awarded a grant from the FDA Innovative Food Defense Program which resulted in the handbook, "Guidelines on the Remediation and Restoration of Food Processing Facilities after an Intentional Contamination Event," from which the present material is based. To download copies of the guidebook go to http://www.ncagr.gov/fooddrug/ and click on "Restoring Food Processors after a Recall."

Resilience 2013 Webinar

A recent DomPrep Executive Briefing at The National Press Club addressed key issues relating to resilience in 2013 and beyond: making tough decisions when planning for potential disasters; turning theory into practice; bridging the gaps between public and private sectors; and leveraging a data-rich society.

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Checklists for All-Hazards Food Defense Planning

By Kay C. Goss, Standards

Military leaders have long known that an army "travels on its stomach," which also is true of a nation's civilian population. As such, one of the most important but less publicized responsibilities of political as well as military leaders is to protect their nations' food supplies. Protecting this vital area of national preparedness and of daily living begins with a firm foundation on the basics of countermeasures – against agro-terrorism, foodborne illnesses, water degradation, bioterrorism, epidemiology, and zoonotic diseases.

Several U.S. federal agencies have the primary responsibility for certain aspects of food defense and response – for example, the Department of Agriculture's Food Security Inspection Service (FSIS), the Department of Health and Human Services' (HHS) Food and Drug Administration (FDA) and the Centers for Disease Control and Prevention (CDC), and the Department of Homeland Security's Federal Emergency Management Agency (FEMA). Many other departments and agencies also participate – within their own primary areas of responsibility – in this collective effort, as well as during sudden emergencies. Voluntary planning documents, most of them prepared and distributed by FSIS, ensure there are effective measures in place to protect the nation's food and food production processes from intentional harm.

Protecting Public Health & Economic Livelihood

Simply by having and promulgating an effective and comprehensive Food Defense Plan ensures that farmers, producers, contractors, restaurants, and other food distributors can and will contribute both individually and collectively to a safer and more secure national food supply. The result, of course, will be improved protection for all citizens and public health employees, as well as greater economic livelihood of families, communities, businesses, and other essential components of the private, nonprofit, and public sectors. Functional food defense plans also: (a) guard against the risks posed by unsafe products and economic losses; (b) reduce theft and spoilage; (c) lessen the need for additional regulations on food defense; and (d) reduce potential liability claims.

The current U.S. food defense plan, which the FSIS composed and offered to the public as recommended guidance, is organized into four specific sections: *Outside Security; Inside Security; Personnel Security; Incident Response Security*. Of course, truly holistic food defense plans also should cover such related and crucial aspects of total preparedness as an emergency plan, a recall plan, and a security plan – all of which should be subjected to vigorous annual review processes. The overarching plan and numerous "sub-plans" should adhere to the following four principles of practical, effective planning: development, implementation, testing, and annual review and maintenance.

The following checklists encompass the principal guidelines and imperatives required to ensure the protection and preservation of the nation's food supply. However, as with any chain, the nation's food supply chain is only as strong as its weakest link. The following checklists also describe measures that an organization may use to tailor a plan to meet the organization's specific needs.

Outside Security Measures

Physical Security

- Establish clear and secure plant boundaries to prevent unauthorized entry (fences installed, as well as trespassing signs)
- Secure entrances (locks, alarms)
- Monitor plant perimeter for suspicious activity
- Deter unauthorized activities with outside lighting

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- Secure windows and vents
- Protect outside storage from unauthorized access
- Ensure proper lighting is available, and in use, to monitor the establishment outdoors at night and in the early morning
- Install self-locking doors and/or alarms on emergency exits
- Ensure that premises are secured with locks, seals, and/or sensors when unattended (after hours/on weekends or holidays) to prevent unauthorized entry through outside doors, gates, windows, roof or vent openings, as well as tanker truck hatches, railcars, bulk storage tanks, silos, loading ports, and trailer bodies
- Regularly conduct and document security inspections of storage facilities, including temporary storage vehicles
- Restrict outdoor access to water wells/sources

Shipping/Receiving Security

- Examine incoming shipments for potential tampering
- Examine incoming and outgoing vehicles for suspicious activity
- Schedule and/or monitor loading and unloading activities
- Control, monitor, or lock loading-dock access to avoid unverified or unauthorized deliveries
- Secure incoming shipments with locks or seals
- Lock or seal outgoing shipments
- Handle mail away from food, including ingredients and packaged food products
- Ensure that employees who handle mail are aware of and follow the proper handling procedures required under U.S. Postal Service guidelines for suspicious mail
- Closely monitor loading and unloading of vehicles transporting raw materials, finished products, or other materials used in food processing
- Inspect tanker trucks and/or rail cars to detect the presence of any material – solid or liquid – in tanks before loading liquid products
- Require advance notification from suppliers for all deliveries
- Immediately investigate suspicious changes in shipping documents
- Check all deliveries against a roster/planning list of scheduled deliveries
- Hold unscheduled deliveries outside establishment premises pending verification
- If off-hour delivery is accepted, require prior notice of the delivery and an authorized person to be present to verify and receive the delivery
- Require incoming shipments of raw products, ingredients, and finished products to be sealed with tamper-evident or numbered, documented seals and verify the seals prior to entry – reject if seals are broken or missing
- Select transportation companies and suppliers with consideration of their security measures
- Examine returned goods at a separate location for evidence of tampering before salvage or rework
- Maintain records on the disposition of returned goods
- Require drivers and other delivery personnel to provide identification, complete with a photo ID – and record their names
- Minimize the time a truck is unlocked during loading or delivery

Inside Security Measures

- Report suspicious packages to appropriate authorities
- Clearly identify restricted areas
- Check previously unattended materials before use
- Report unexpected changes in inventory (product or equipment)
- Ensure that emergency lighting is in place
- Identify, test, and review an emergency alert system with emergency contacts (for example, police or fire personnel)
- Install and monitor security cameras
- Increase visibility within the establishment (improve lighting and openness, increase supervision, add cameras)
- Regularly take inventory of keys to secured/sensitive areas of the establishment

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- Restrict access to controls (lock door/gate or limit access to designated employees) for heating, ventilation, and air conditioning (HVAC), propane, natural gas, water, electricity, disinfection systems, clean-in-place (CIP) systems, centralized chemical systems

Slaughter/Processing Area Security

- Restrict access to live animals, ingredients, and packaged products
- Control access to animal handling areas and/or carcass coolers
- Restrict access to process-control equipment such as ovens and/or mixers
- Examine ingredients for possible tampering
- Ensure traceability of records for one step backward, one step forward, or both
- Maintain records to allow the efficient tracing of materials and finished product
- Reduce the time an area is left unmonitored
- Reduce access to product containers or processing equipment
- Do not allow unnecessary personal items within the production area

Storage Security

- Restrict access to storage areas
- Practice proper stock rotation (first in, first out)
- Control labels and packaging materials
- Require periodic examinations for tampering of materials in storage
- Maintain an access log for product and ingredient storage areas
- Regularly check the inventory of finished products for unexplained additions and withdrawals from existing stock
- Restrict access to external storage facilities to designated employees only

Ingredients/Water/Ice Security

- Restrict access to storage tanks for potable water and to water-reuse systems
- Examine and restrict access points to lines that transfer water or ingredients
- Control access to plant ice-making equipment
- Control restricted ingredients (nitrites, for example)
- Request supplier food safety/security information
- Examine packages of ingredients before use for evidence of tampering
- Restrict access to product, ingredient, and packaging storage areas to designated employees only, by locked door/gate
- Ensure that water is from a municipally controlled source
- Inspect water lines for possible tampering (perform visual inspection for integrity of infrastructure)
- Make arrangements with local health officials to ensure immediate notification if potability of the public water supply is compromised

Chemical/Hazardous Material Control Security

- Store chemicals/hazardous materials – including pesticides, cleaning, and/or laboratory materials, as well as sanitizers –in a restricted area or secure them with a lock
- Maintain an up-to-date inventory of hazardous materials and chemicals, and of investigative discrepancies
- Control potentially hazardous waste (biological or chemical) and dispose of it properly
- Restrict access to the in-plant laboratory
- Ensure that procedures are in place to control receipt of samples
- Ensure that procedures are in place to receive, securely store, and dispose of reagents

Information Security

- Control access points to sensitive information, site plans, and processing details
- Protect access to computer systems through firewalls and/or passwords
- Track customer complaints/comments for trends
- Keep details of food defense procedures confidential as necessary
- Have up-to-date and quickly available establishment layout/blueprints for local law enforcement – including, if needed, local fire/police departments

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Personnel Security Measures

Employee Security

- Ensure that methods to recognize or identify employees in the facility are in place
- Conduct background or reference checks for new hires
- Restrict what employees can bring in or take out from the facility, such as cameras
- Authorize appropriate employees to stop a process for significant concerns
- Control access by employees and non-employees entering the establishment during both working and non-working hours, using coded doors, receptionist on duty, swipe cards
- Restrict temporary employees and non-employees to areas relevant to their work
- Implement system to identify personnel with their specific functions, assignments, or departments, with corresponding colored uniforms and/or hair covers
- Prohibit employees from removing company-provided uniforms or protective gear from the premises
- Maintain an updated roster for each shift

Non-Employee Security (visitors, contractors, guests, customers, truck drivers)

- Maintain a log of non-employees entering the establishment
- Establish a method to recognize or identify non-employees within the establishment
- Chaperone non-employees on-site
- Restrict non-employees to appropriate areas
- Ensure that non-employees follow restrictions on what they can bring in or take away from the facility

Security Training

- Provide awareness training on security measures to new employees
- Offer refresher awareness training on security measures to employees on a periodic basis
- Train employees to report suspicious activities or unusual observations
- Follow requirements to electronically verify the employment eligibility of new hires (at http://www.dhs.gov/files/programs/gc_1185221678150.shtm) – E-verify, an internet-based system operated by the federal government, also is available for employers to use at no charge

Incident Response Security Measures

- Ensure that adulterated or potentially harmful products are isolated and held in a protected area by having appropriate procedures in place
- Investigate customer comments
- Encourage the reporting of unusual activities
- Provide information to employees on how to respond to phone or other threats
- Enable employees to stop activities to minimize a potential food defense incident
- Investigate reported security breaches (alarms, suspicion of tampering)
- Establish and test effective evacuation procedures
- Establish the procedures needed for responding to threats as well as actual product contamination events/incidents
- Pre-establish communication with local, state, and federal incident response personnel

Emergency Contact Security Measures

- Maintain current plant personnel contact information and emergency contact lists
- Maintain and periodically review a product recall plan
- Train key personnel in product recall/withdrawal procedures

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Kay C. Goss, CEM, is the chief executive officer for GC Barnes Group, LLC. Previous positions include: president at World Disaster Management, LLC (2011-2013); senior principal and senior advisor of emergency management and continuity programs at SRA International (2007-2011); senior advisor of emergency management, homeland security, and business security at Electronic Data Systems (2001-2007); associate Federal Emergency Management Agency director in charge of national preparedness, training, and exercises, appointed by President William Jefferson Clinton (1993-2001); senior assistant to the governor for intergovernmental relations, Governor William Jefferson Clinton (1982-1993); chief deputy state auditor at the Arkansas State Capitol (1981-1982); project director at the Association of Arkansas Counties (1979-1981); research director at the Arkansas State Constitutional Convention, Arkansas State Capitol (1979); project director of the Educational Finance Study Commission, Arkansas General Assembly, Arkansas State Capitol (1977-1979).

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Protecting the Food Supply Outside the Walls

By Don Hsieh, Private Sector

Over the past several years, there has been an interesting shift in the types of goods stolen. According to data from FreightWatch International, in 2007, electronics were the top product stolen, but for the last three consecutive years, food and beverage products have risen to the top of the list of most stolen goods. Unlike electronics, these products are less risky items to resell because they are more difficult to track. Without the serialization common to electronics for identification purposes, food and beverage products are easy targets for criminals. Since these stolen goods are easier to resell into legitimate channels, thieves can receive as much as $0.70 on the dollar versus just $0.30 for electronics. However, in addition to theft, food products also are vulnerable to adulteration, which significantly raises the risks for every stakeholder in the food supply chain.

Food Safety & Brand Protection

In a 2013 DomPrep Food Defense survey of 600 respondents from various industries, public health organizations, and first responder agencies, as well as federal, state, and local government agencies, 58 percent of the respondents believe the U.S. food supply is very vulnerable to the threat of intentional contamination. In order to protect this vast food supply chain, each stakeholder must have a proactive food protection plan that clearly defines their roles in the prevention, detection, and response to an adulteration event, and work together to share information, communicate, and coordinate efforts as food moves from farm to fork.

Companies must monitor the safety of food products from both inside and outside the walls of their facilities. As an attack can happen anywhere in the chain, from anybody in the chain, including their own employees, companies are responsible for controlling how food is handled, being aware of who are making the pickups and deliveries, and monitoring shipments once they leave the companies' gates. In fact, according to the same DomPrep survey, intentional food adulteration from disgruntled employees ranked as the most likely threat – far above terrorism and criminals.

What happens outside of a company's facilities, when a shipment of products leaves a facility, is still the company's concern. If something goes wrong with this shipment, the company's brand is at stake. Criminals often are not concerned with how they handle the products; they are concerned about simply moving and reselling the stolen goods. If a shipment is not properly refrigerated or sanitized, the stolen food could be unsafe to ingest by the consumer – and if a consumer gets sick, the blame falls on the brand. Moreover, there are additional costs associated with product loss, including potential recall costs, litigation costs, and impact to future revenue and market value. The best way to avoid added financial costs and a tainted brand reputation is to stop cargo theft before it happens by building a proactive food defense program – and that starts with the Four "A"s of actionable food defense: assess, access, alert, and audit.

The Four Steps of Food Defense

The first step is to assess the risks within the whole supply chain, which starts by conducting a vulnerability assessment of critical control points. This includes not only the actions happening internally at a facility, but the entire supply chain including the transportation of goods.

The second step is to consider which contractors, visitors, and even employees have access to critical control points or specific areas where only the employees doing their job

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should be able to access. By allowing only authorized staff access to critical control points, a company is able to better protect sensitive areas such as mixing, ingredient handling, and liquid receiving, storage, and handling that the U.S. Food and Drug Administration has deemed most vulnerable to intentional adulteration.

The third step is to continuously monitor the entire supply chain and alert appropriate authorities of intentional and unintentional instances of food adulteration. There are multiple ways for cargo thieves to access products – from deceptive pickups to in-transit cargo theft. By implementing strict, multi-layered security processes and advanced technologies such as identification verification as well as truck and trailer security and control solutions, many of these thefts are preventable.

The fourth step is to determine operational and regulatory compliance to best food defense practices and provide documentation of compliance to regulators. The Food Safety Modernization Act, which was signed into law on 4 January 2011, promotes the safety of the U.S. food supply by focusing on prevention, rather than a reactive response. However, prevention is only as effective as the actual compliance to the processes that are in place. Regular, random auditing using remote video auditing technology can go a long way to ensuring that the preventive actions are, in fact, in place and working.

Implementing preventive controls built on actionable intelligence to protect the food supply chain is much more effective than reacting to an event after it happens. The Four "A"s of a proactive food defense program deliver comprehensive monitoring and control over the integrity of a company's supply chain to combat intentional food adulteration. It is a new year, which is a good time for companies and other stakeholders to build a proactive food defense program.

Don Hsieh is the director of commercial and industrial marketing at Tyco Integrated Security. He is responsible for developing and driving the go-to-market strategy for a broad spectrum of vertical markets including food and beverage manufacturing and distribution, restaurants, and food service, which make up Tyco's Food Defense initiative, as well as key market segments such as manufacturing, wholesale, telecommunications, and service industries. Before joining Tyco, he spent more than 20 years in the hi-tech industry leading the development of multiple vertical markets and channels of distribution to accelerate growth at top-tier technology firms such as Hewlett-Packard, NCR, and Konica Minolta.

"Game Day" Food Defense: Enhanced Business as Usual

By Michéle Samarya-Timm, Special Events

Major sporting events such as the Olympics or the Super Bowl can bring much excitement and tourism into a location; but mass gatherings like these require the coordination of a vast array of organizations, agencies, services, and resources to minimize health and safety incidents. The public health goal at mass gatherings is to prevent or at least reduce the risk of injury or ill health and maximize the safety of participants, spectators, event staff, volunteers, and residents.

Even if existing health, food safety, and other support services of a host community have adequate capacity to manage the regular disease burden affecting its own population (including occasional outbreaks), the influx of people attracted to a large-scale event, coupled with the infrastructure changes needed for support, can place severe strains on such service. According to the World Health Organization, workforce burdens may compromise the ability to detect a developing problem and inhibit an effective response. Therefore, setting a high priority on interagency event planning early in the process – including addressing necessary components of food protection and food defense – can help ensure efficient, multi-faceted food protection coordination.

A Commitment to Food Safety

In 2012, London hosted the Summer Olympic and Paralympic Games, which accounted for an estimated 14 million meals served at more than 40 Olympic venues across the United Kingdom. That event provided the United Kingdom with an opportunity to

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review and improve its existing policies and practices regarding food protection. Elements of this successful strategy serve as a template for other nations when preparing essential food safety and food defense initiatives for sporting events, political gatherings, festivals, and other large-scale planned attractions.

The U.K. organizers made four key food safety commitments for the Olympics and Paralympics Games:

- To ensure exemplary standards for food safety and hygiene at all venues;
- To develop and apply robust traceability procedures;
- To manage the risk of targeted malicious contamination of food; and
- To engage with security services on food protection assurance.

Mass gatherings can be an attractive target for intentional contamination of the food supply and a high-risk opportunity for unintentional foodborne illnesses.

In an effort to follow through on these commitments, the London Olympic oversight team developed a concept of operations – The LOCOG (London Organising Committee of the Olympic and Paralympic Games) Approach to Food Safety on 20 July 2011 – and established roles, responsibilities, resources, and needs to ensure adequate capacity to receive, rapidly analyze, and react to surveillance, reporting, and intelligence information. By doing so, the team could identify and respond to any potential health protection threat. When developing their overarching strategies, the U.K. Food Standards Agency – in coordination with the U.K. Health Protection Agency and the London Organising Committee of the Olympic and Paralympic Games – proposed a plan for "enhanced business as usual."

The Game Plan

This game plan for enhanced business as usual included increased education and inspection, as well as workforce scheduling considerations. Specific parameters included: education, communication, surveillance, and surge capacity.

Education – Arguably one of the most valuable and sustainable initiatives used at the London Games was the establishment of a Food Safety Ambassador team. These designated public health professionals worked proactively with industry and food handlers in the months leading up to the Games to provide guidance and ensure understanding of safe food procedures and food defense awareness – for example, how to identify indicators that the food supply has been intentionally compromised. The ambassadors provided handy guides with frequently asked questions, including details on what food business operators must do and how they could register their food businesses.

Informational and educational booklets on food protection were available in English and nine additional languages for persons who currently were operating – or were thinking about operating – a food business. By implementing such coaching programs, local authorities create valuable good will with the media and food industry and potentially reduce the incidence of food handling violations and foodborne illnesses. Food handlers also can continue to practice the lessons learned long after the event itself. Such coaching programs are valuable experiences for all involved.

Communication – London developed a streamlined and targeted Strategic Risk Communication Plan, which included: (a) daily teleconferences and activity reports among relevant stakeholders; (b) daily surveillance reports for public health authorities; and (c) face-to-face meetings and conference calls at prescheduled intervals and as needed. Similar plans, if implemented in cooperation with fusion centers and local/county health departments, would keep essential stakeholders informed as well as facilitate education, valid information flow, and any needed rapid response. With a state or regional health department as the lead agency, large-scale event stakeholders can easily adapt this model.

Surveillance – In the area of disease surveillance, the United Kingdom established an enriched oversight

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model to work toward increasing awareness and specific disease identification during the weeks surrounding the Games. Public health agencies monitored reportable communicable diseases – including foodborne illness – through mandatory electronic reporting. This U.K. surveillance model for enhanced business as usual could increase awareness and specific disease identification during the weeks surrounding other scheduled events as well.

Upgrading reporting of defined diseases or symptoms of concern during the weeks surrounding an event by using a jurisdiction's existing electronic communicable disease reporting portals can help increase practitioner awareness and reduce lag time between diagnosis and reporting in an efficient and cost-effective manner. Another consideration is the education of event attendees by providing advice – in the program books or other appropriate places – of symptoms to report and protective measures everyone can take (e.g., hand-washing).

Surge Capacity – As with any mass gathering, the need for oversight is the greatest on the day of the event. Recognizing this, the U.K. Food Standards Agency collaborated with the Chartered Institute for Environmental Health to identify and deputize currently licensed health professionals to assist with regulatory food safety inspections. Following this model, other jurisdictions could augment their staffing resources with a cooperative inspection agreement, or cooperative volunteer agreement with appropriate professional agencies, such as the National Environmental Health Association, similar state-based associations, or industry partners. Such agreements would provide real-world mass-gathering inspection experience to currently licensed health professionals, as well as bolster food safety/food defense on event dates.

Overall Food Protection

Mass gatherings can be an attractive opportunity for intentional contamination of the food supply. In addition, unintentional foodborne illnesses can increase during large gatherings, due to the escalation of food preparation facilities and meals produced.

The success of sporting events such as the Olympics and the Super Bowl depends on an ever-changing, complex, and increasingly "busy" stakeholder environment. Should food safety incidents arise, pre-planning is the best way to ensure coordinated, rapid, and appropriate response and communication among involved agencies and the public.

The efforts of those responsible for ensuring food safety during the 2012 London Olympics and Paralympics Games are examples of policy and education that can be adapted for other large-scale events such as the Super Bowl. Using the policies and lessons learned from these Games, other organizers could benefit from similar planning, management, and response tools to help ensure that food protection systems are in place before any mass gathering event.

Michéle Samarya-Timm has an MA in homeland security and defense from the United States Naval Postgraduate School and a BS and MA in health education from Montclair State University. A masters certified health education specialist and New Jersey health officer, she has more than 20 years as a registered environmental health specialist. Employed with the Somerset County Health Department (N.J.) since 2009, she has extensive involvement in emergency preparedness and response, food safety and outbreak prevention, public health analysis, and health communications. She is the recipient of a special citation from the FDA Commissioner for her educational work to reduce foodborne illness in the United States, and also for her efforts in maximizing collaborative efforts between federal, state, and local regulators. Currently she is overseeing the implementation of an FDA-funded food defense program, and is completing a thesis exploring the impacts of intergovernmental communications on foodborne outbreak threats and response.

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Food Defense Activities – A Year in Review

By Jason Bashura, Exercises

In calendar year 2013, the U.S. Food and Drug Administration's (FDA) Food Defense Oversight Team scope expanded to include responsibilities within the FDA's Center for Food Safety and Applied Nutrition – including emergency coordination activities. The new title for this group is the Food Defense and Emergency Coordination Staff (FDECS), whose mission reads as follows:

> "The FDECS develops and implements procedures to prevent, prepare for, respond to, and recover from intentional contamination affecting CFSAN [Center for Food Safety and Applied Nutrition] regulated products. FDECS is responsible for data collection and analysis, policy development, and both domestic and international outreach efforts in food defense. FDECS coordinates and directs emergency operations for man-made and natural disasters."

Calendar year 2013 provided many opportunities to meet, collaborate and interact with, and further improve relationships with stakeholders within the food and agriculture communities. FDECS was a key partner in the development, drafting, and publication of the proposed rule to address intentional adulteration of the food supply. The proposed rule, which is required under the Food Safety Modernization Act (FSMA) and entitled "Focused Mitigation Strategies to Protect Food Against Intentional Adulteration," was published in the Federal Register on 24 December 2013.

Below is an aggregate "summary" of food defense-related activities that the FDA has participated in or coordinated, as well as the food defense tools and resources that the FDA has developed over the past year. The cumulative estimated outreach for the year – not including phone calls and email exchanges – is approximately 10,000 stakeholders within and outside the United States.

Conferences & Meetings

From January to December 2013, the staff of the FDECS:

- Organized and hosted quarterly meetings with the Food and Agriculture Sector Coordinating Councils.
- Organized and hosted monthly conference calls with the Food and Agriculture Government Coordinating Council.
- Collaborated with the India Post, the Food Safety Standards of India, and the Federation of Indian Chambers of Commerce and Industry; the FDECS also participated in two Food Defense Awareness Workshops in India. (May)
- Organized and hosted a six-hour workshop at the Preparedness Summit, Atlanta, Ga. (March)
- Participated in the FDA's Manufactured Foods Regulatory Program Standards (MFRPS), St. Louis, Mo. (March)
- Organized and participated in three sessions related to food defense at the Food Safety Summit, Baltimore, Md. (April)
- Participated in a Food Defense Symposium, via webinar, in Somerset County, N.J. (May)
- Presented food defense tools and resources to the Association of Food and Drug Officials conference in Louisville, Ky. (June)
- Presented Food and Agriculture Sector Government Coordinating Council update on activities to the Association of Food and Drug Officials, in Louisville, Ky. (June)
- Participated in two Food Defense symposiums, via webinar, in Cuyahoga County, Ohio. (June)
- Presented food defense tools and resources, via webinar, to the Michigan Department of Agriculture and Rural Development. (June)

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- Presented food defense tools and resources, via webinar, to the Georgia Rapid Response Team kick-off meeting. (June)
- Provided a Food Defense Plan Builder public stakeholder session, and follow-up question and answer session. (June)
- Organized and presented two Food Defense Awareness Workshops in Pleasanton and Fresno, Calif. (May)
- Participated in a Food Defense Awareness Workshop at the Universidad del Este in San Juan, Puerto Rico. (June)
- Presented and provided technical expertise for the FERN (Food Emergency Response Network) Training for the Detection of Bacillus anthracis and Yersinia pestis in Food in Cincinnati, Ohio. (June)
- Organized and participated in food defense updates at the National Environmental Health Association conference in Washington, D.C. (July)
- Participated in the International Association of Food Protection's Food Defense Workshop, in Charlotte, N.C. (July)
- Participated in Innovative Food Defense Program meeting at Somerset County, N.J. (August)
- Participated, via webinar, in FDA's Northeast Regional Food Protection Seminar in Connecticut. (August).
- Coordinated and presented, in collaboration with FDA's Office of Regulatory Affairs, the 2nd Food Industry Outreach Training for Public Affairs Specialists and Small Business Representatives. (August)
- Met with industry stakeholders regarding industry needs for food defense tools and resources. (July)
- Participated in meetings with Chinese government agencies, including China Food and Drug Administration and Certification and Accreditation Administration of the People's Republic of China, on food defense efforts including the formation of a food defense working group and addressing economically motivated adulteration, in Beijing, China. (August)
- Presented at an Economically Motivated Adulteration conference at the U.S. embassy in Beijing, China. (August)

Food Defense

A DomPrep Special Report

Food, like water and air, is essential to sustain life. As such, when someone deliberately taints that sustenance at any point in the food supply chain, the result can be devastating. This report addresses the topic of food defense, which is of great importance to the preparedness community but often is not widely understood outside the food and agriculture sector.

On 23 July 2013, DomPrep hosted a "Food Defense" Roundtable, which was held at the University of Minnesota.

Click to download the full report, ***Food Defense***

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- Participated in a Food Defense Workshop in coordination with the German Risk Assessment Agency in Berlin, Germany. (September)
- Conducted meetings with United Kingdom's Food Standards Agency to identify points of collaboration and cooperation in food defense research areas, in London, United Kingdom. (September)
- Presented, via webinar, food defense tools and resources to the Wisconsin Environmental Health Association conference in Wisconsin. (September)
- Organized and hosted a Food Defense Symposium highlighting historical context of food and waterborne terrorism and a discussion behind an actual retail-level intentional food contamination event at CFSAN in College Park, Md. (September)
- Conducted several food defense meetings for future collaborations with the U.S. Department of Defense. (July/September)
- Organized and presented Food Defense Awareness Workshop in Denver, Colo. (October)
- Organized and presented Food Defense Awareness Workshop in Chicago, Ill. (November)

Exercises

- Participated in the 2013 Presidential Inauguration Food Safety and Defense Assignment. (January)
- Participated in a joint exercise between the Food and Agriculture Sector and the Nuclear Reactor, Materials and Waste Sector in Washington, D.C. (March and October)
- Organized and hosted an agency-wide exercise designed to examine agency communication channels and the capabilities of the laboratories within the Food Emergency Response Network in College Park, Md. (August/September)
- Provided $50,000 to state and local stakeholders to perform Food Related Emergency Exercise Bundle (FREE-B) exercises, enabling them to test their food emergency response plans, protocols, and procedures.

Tools & Resources

- Updated the Mitigations Strategies Database. (December 2013)
- Released Food Defense Plan Builder tool. (1 May 2013)
- Released Food Defense 101, including ALERT. (5 June 2013)

Food Defense Programs

- Posted the final summary report for the 2012 Special Event Food Safety and Defense Assignment. (February)
- Posted the outcomes and findings of Vulnerability Assessments and provided identification of key activity types. (April)
- Provided $200,000 to successful applicants through the Innovative Food Defense Program. (IFDP awards close in June, awarded in September)
- Led the FDA's participation in the 2013 Presidential Inauguration Food Safety and Defense Assignment. (January)

Publication

Bashura, J. P. (2013) The expanding umbrella of food defense. *Food Safety Magazine*, Vol. 19, No. 4, pp. 70–77. http://www.foodsafetymag-digital.com/foodsafetymag/august_september_2013#pg76

For detailed information on the efforts listed above, visit www.FDA.gov/FoodDefense. For additional information or to discuss any of these efforts, please contact FoodDefense@fda.hhs.gov.

The FDA prepared this compilation of activities for the DomPrep Journal in January 2014.

Jason Bashura is a senior food defense analyst with the FDA's Food Defense and Emergency Coordination Staff. He has been working within the food defense arena since 2002, when he began working with the Connecticut Department of Public Health's Food Protection Program as a food biosecurity (now food defense) environmental health sanitarian. Currently, he oversees the utilization and refinement of the Food Related Emergency Exercise Bundle (FREE-B) and continues to provide technical oversight and guidance of the Innovative Food Defense Program. Among his experiences and opportunities, he has developed countless relationships with dedicated government, industry, and academia leaders, in an attempt to connect the innumerable dots within the Food Defense arena. He has a Master's Degree in Public Health from the University of Connecticut (UCONN) and an undergraduate degree in Public Health from Southern Connecticut State University.

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New Mexico – "Defensive" About Agriculture & Food

By Kelly J. Hamilton, State Homeland News

New Mexico has factors that make defending its $3 billion agriculture and food industry challenging: (a) three major interstates traversing the agriculture-based state (I-10, I-25, and I-40); (b) an international border to the south; and (c) a diverse and widely spread agriculture and food critical infrastructure – in addition to almost 1.5 million cattle and acres of quality alfalfa hay, the state produces milk, cheese, pecan, chile, and other agricultural products. The New Mexico Department of Agriculture – in collaboration with New Mexico State University College of Agricultural, Consumer, and Environmental Sciences – created a coordination and training vehicle in 2005 called the Southwest Border Food Safety and Defense Center. The Center works closely with the New Mexico Department of Homeland Security and receives funding in part through emergency management planning grants. In 2013, the Center made close to 300,000 training and education contacts through face-to-face trainings, information sharing at food and agriculture events, and newspaper inserts.

Each year, in partnership with the Food and Drug Administration (FDA), the Center coordinates the New Mexico Food Protection Alliance Conference. Both public and private sector agencies and organizations come together to train, plan, and exercise for a food defense-related incident. In addition to the state alliance, county extension agents employed by New Mexico State University coordinate local food alliances for information gathering and dissemination.

The Center also hosted an FDA Food Defense Plan Builder training opportunity with many industry representatives in attendance, particularly the chile industry. After the Center presented at the Annual Chile Conference on food defense in early 2013, New Mexico's chile industry has "stepped up" in order to ensure greater food defense planning and mitigation. "The benefits of working with our industry partners on food defense are immeasurable," said Jeff Witte, Secretary of the New Mexico Department of Agriculture when interviewed at a New Mexico State University football game in late 2013 where the New Mexico Department of Agriculture helped coordinate Ag Day. "Not only do we protect our critical infrastructure, we get the private and public sectors communicating and partnering. We get to know each other."

Leading the Food Defense Effort

In July of last year, the Center created and conducted a functional exercise involving a salmonella outbreak on the New Mexico State University Campus. During that exercise, participants discovered numerous strengths and, as with any exercise, noted opportunities for improvement involving communication and effective use of the incident command system.

Through a cooperative agreement with the FDA's Innovative Food Defense Program, partners in New Mexico finished the first version of a food defense recovery guide template in early 2013 that is currently available by emailing: khamilton@nmda.nmsu.edu. New Mexico also champions other food defense-related activities found at http://www.fda.gov/fooddefense and emphasizes that food defense is everybody's business.

Results of a Regional Resilience Assessment Program coordinated by the U.S. Department of Homeland Security of the dairy and cheese industries will be completed and reviewed in 2014. Those findings will assist with future planning and exercise efforts. In 2014, the New Mexico Department of Agriculture also plans to lead a "Cascading Events" full-scale exercise involving local and state partners, which will test private/public sector preparedness.

Kelly J. Hamilton, MPA, is the biosecurity director for the New Mexico Department of Agriculture and the Emergency Support Function (ESF #11) (agriculture and natural resources) coordinator for the State of New Mexico. He also co-directs the Southwest Border Food Safety and Defense Center and has spent more than 30 years in law enforcement and emergency preparedness. He works with the National Center for Biomedical Research and Training at Louisiana State University as a researcher, developer, and lecturer as well as at the Center for Agriculture and Food Security and Preparedness at the University of Tennessee, Knoxville.

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Productivity & Multiagency Meetings

By Joseph Cahill, EMS

Many committees or other coordinating bodies are responsible for planning, managing, or recommending changes to the status quo. For example, certain county agencies lead child-fatality review teams, which analyze the circumstances related to the death of a child as part of an effort to prevent future deaths. Many local agencies have established their own emergency planning committees, which are responsible for numerous tasks ranging from better planning to the collection of data on hazardous material. In addition, many other agencies carry out interagency exercises to build and improve preparedness.

All of these and many similar efforts are not only laudable but also necessary. Unfortunately, many of them begin as just another "unfunded mandate" and can quickly drain the productivity of the participating staff members. Nonetheless, in addition to the more obvious values of the above-stated goals of the multidisciplinary teams involved, there are a number of substantive reasons for participants in such meetings to become deeply involved.

Differing Perspectives & Imperfect Solutions

A major bonus for any agency participating in multiagency meetings is staff development. When participants share, discuss, and ultimately understand many different points of view, these meetings provide new insights to responders and agency leaders about the thinking processes and planning priorities of other agencies.

Most civil service and crisis management agencies and organizations are similar in at least some respects. However, each agency still sets its own priorities, follows its own way of thinking, and abides by its own core statutes – which dictate not only what members of that agency can and must do but also the boundaries within which they must work. The development and execution of an evacuation plan, for example, may include a requirement for the staging of buses in a nearby parking lot as soon as the appropriate authorities suspect that a specific incident may require evacuation.

That requirement makes perfect sense, of course. But without a transportation agency representative participating, the planning team might be unaware of certain limitations – the maximum allowable on-duty times for bus drivers, for example, which includes the time waiting at a pre-planned staging area.

Working Relationships: Before, Not After

Advance planning that starts at an emergency operations center or in the office of a senior elected official during an emergency activation is obviously not the best time to meet the leaders of other agencies involved in a specific incident or operation. Doing so, in fact, usually guarantees a rocky or at least unpredictable ride. For that reason, multiagency meetings are a welcome opportunity to become a "real person" to representatives of the other agencies involved.

All too often, when members of different agencies meet, they still view the other participants as simply "uniforms." Even police officers and firefighters are sometimes suspicious of one another. Moreover, both of these front-line responders still, in some instances, discount the urgent need for emergency medical services units – until there is an actual patient in need of immediate medical care, of course. In addition, at least some members of all three of these agencies would probably prefer not to deal with non-responder agencies.

When staff members move beyond agency affiliations and can actually call each other by name, interagency politics usually recede and the work immediately at hand becomes the principal focus. By recognizing that encouraging aspect of human nature, multiagency meetings and projects will not drain staff productivity but instead will develop staff professionalism and improve collective productivity by allowing the members of all agencies involved to better understand one another and to network more effectively in future times of crisis.

The end result should be obvious: If the planning group's original goal is met, a childhood death may be prevented, a hazardous material spill may be averted, and many other beneficial results will make the time invested in periodic meetings more than worthwhile.

Joseph Cahill is the Director of Medicolegal Investigations for the Massachusetts Office of the Chief Medical Examiner. He previously served as exercise and training coordinator for the Massachusetts Department of Public Health and as emergency planner in the Westchester County (N.Y.) Office of Emergency Management. He also served for five years as citywide advanced life support (ALS) coordinator for the FDNY – Bureau of EMS. Before that, he was the department's Division 6 ALS coordinator, covering the South Bronx and Harlem. He also served on the faculty of the Westchester County Community College's Paramedic Program and has been a frequent guest lecturer for the U.S. Secret Service, the FDNY EMS Academy, and Montefiore Hospital.

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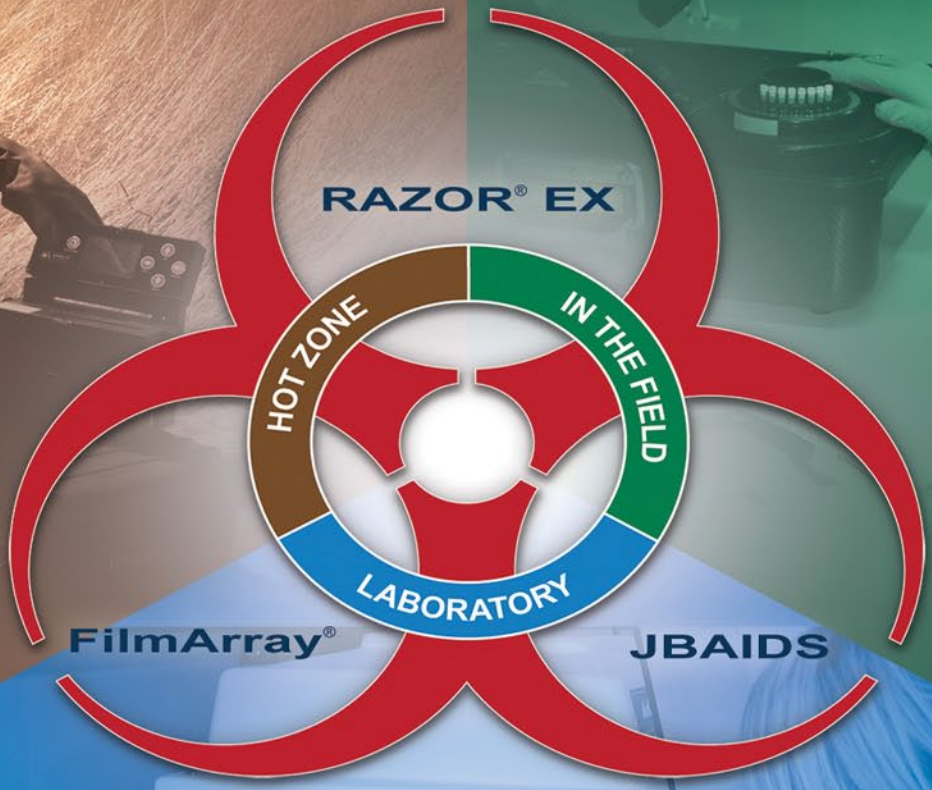

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