

Complex Operating Environment - Food and Agriculture

Food and agriculture infrastructure is a \$1 trillion industry, almost entirely under private ownership and comprises an estimated 2.1 million farms, 935,000 restaurants, and more than 200,000 registered food manufacturing, processing, and storage facilities. Intentional contamination of the food supply could have significant public health and economic consequences depending on the commodity, the agent used, and where in the supply chain the contaminant was added. This product provides first responders and private-sector stakeholders an awareness of the complex operating environment that may result from intentional contamination of the food supply and identifies key collaborative partners and indicators to minimize the risk of an intentional attack on the food supply.

Although some of the examples summarized below are not directly related to terrorism, they highlight relevant mechanisms and consequences of a potential attack on the food supply:

- In 2014, a disgruntled employee at a Japanese seafood-processing company intentionally contaminated several frozen foods with the pesticide Malathion. Japanese authorities believe the worker brought Malathion to the plant and injected it into frozen foods during the manufacturing process. The employee exploited his access to the food prior to packaging to introduce the agent. The contamination resulted in at least 2,843 mild foodborne illnesses and a recall of 6.4 million packages of frozen foods.
- In 2009, a disgruntled Michigan grocery store worker contaminated 200 pounds of ground beef with an insecticide containing high concentrations of nicotine. Dozens of people were sickened after eating meat purchased from a store in Grand Rapids. The employee allegedly poured Black Leaf 40 on the beef before wrapping it into one to three pound packages. After pleading guilty, the store worker was sentenced to prison and was ordered to pay restitution of \$12,000.
- In 2009, an employee and a former employee at a Kansas restaurant twice put a Methomyl-based pesticide into salsa, causing almost 50 people to become ill, including several requiring hospitalization. The employees were sentenced to prison and one was ordered to pay restitution of almost \$500,000.
- In 1984, a violent extremist group in Oregon deliberately contaminated local salad bars with salmonella to affect local election outcomes. The group purchased salmonella from a medical supply company and cultured it in advance of the intentional contamination. More than 750 people became ill. Two members of the group were charged and imprisoned.

TARGETED INFRASTRUCTURE: Food infrastructure is considered a “soft target” for deliberate attack because of the decentralized nature of the infrastructure nodes. Nodes often provide multiple entry points into the food continuum and have limited to no security. Examples of nodes with limited security include processing, transportation, and distribution mechanisms and facilities, while nodes with little or no security might include restaurants, cafeterias, grocery stores, and food service and storage.

Intentional contamination within the food and agricultural environment may not be immediately recognized as such until collaboration between law enforcement and lab testing is complete. State, local, tribal, and territorial, as well as public health authorities and hospitals, are likely to be among the first to recognize an initial indication of intentional or naturally occurring contamination of food. Recognition may come from a significantly greater number of people reporting ill to public health care providers; increased reporting of sick animals to veterinarians or animal health officials; or numerous plant anomalies reported by state officials, agricultural extension agents, or the public. Other sources may include routine public/private laboratory surveillance, inspection reports, consumer complaint systems, and various suspicious activity reporting hotlines. The most critical information requirements include: surveillance information, identification of the cause of the incident, determination of whether the incident is intentional or naturally occurring, and identification of the human or animal population and/or plants at risk.

A food and agriculture incident often will be distributed across multiple jurisdictions, potentially requiring the coordination of multiple incident sites simultaneously at state, local, tribal, territorial, regional, national and international levels, as well as the private sector. An act of intentional food contamination, food tampering or agro-terrorism, may potentially overwhelm the capabilities of state, local, tribal, and territorial governments and may seriously challenge existing federal response capabilities. For example, many law enforcement agencies lack the sufficient resources and procedures to conduct their normal duties and investigate an incident while simultaneously enforcing widely dispersed checkpoint quarantines around the clock for the duration of the emergency.

FOOD AND AGRICULTURE INCIDENT ANNEX

The Federal Emergency Management Agency’s Food and Agriculture Incident Annex identifies the roles for federal involvement, particularly when first responders at the state and local levels are overwhelmed by an incident. The annex establishes the US Departments of Agriculture and Health and Human Services as the primary agencies for coordination and notification when incidents and outbreaks affect food and agriculture; however, law enforcement agencies are to be notified immediately through the Federal Bureau of Investigation or Food and Drug Administration’s Office of Criminal Investigations if the incident appears to be intentional.

FIRST RESPONDER AND PUBLIC HEALTH RESPONSE PLANNING CONSIDERATIONS: It is highly recommended that first responders establish rapport with the appropriate local public health, law enforcement, and private-sector food supply entities before an incident. Establishing information-sharing relationships and participating in preparedness exercises can help ensure sufficient laboratory capacity, technical capability, and medical countermeasures are in place to address properly a potential intentional food-contamination attack. No single government or private-sector entity possesses the authority, expertise, and resources to act unilaterally on the many complex issues that may arise in response to a food or agriculture incident, especially given the increasingly global nature of the food and agriculture system.

First responder agencies, including 911 emergency call and dispatch centers, should build relationships with public health agencies and hospitals; familiarize themselves with the policies, procedures, and resources within their area of responsibility; and make the appropriate notifications in the event of an intentional food contamination event. In addition, first responders should consider notification procedures that address the elderly, physically disabled, and foreign-language-speaking communities within their jurisdiction. The following are additional first responder and public health planning considerations:

- Build relationships with government and industry partners before an incident occurs to foster familiarity, trust, and to share reporting/information, such as facility blue prints;
- Conduct awareness training and exercises;
- Reach out to food manufacturing and service facilities, including transporters, and encourage industry to reach out to law enforcement and first responders;

- Identify medical centers in and around the region and assess capabilities for food contamination response;
- Report unusual illnesses or deaths with quick onset of symptoms;
- Enhance lab testing (some routine testing does not test for all potential contaminants, so enhancing testing would need to be balanced with benefit); and
- Train for evidence handling (it is important to obtain samples of suspected contaminated foods in a timely manner before they deteriorate or are discarded, as well as to gain access to any applicable surveillance videos).

RESOURCES: For additional guidance and training resources see the following information:

- **FOOD SAFETY AND INSPECTION SERVICE, US Department of Agriculture (USDA):** www.fsis.usda.gov/fooddefense
- **FOOD AND DRUG ADMINISTRATION (FDA):** www.fda.gov//fooddefense
- **THE AMERICAN ASSOCIATION OF POISON CONTROL CENTERS (AAPCC):** <https://www.aapcc.org>.
- **GATEWAY TO GOVERNMENT FOOD SAFETY INFORMATION:**www.foodsafety.gov
- **INFORMATION ON HOW TO PREPARE FOR AN EMERGENCY:** www.ready.gov
- **NATIONAL AGRICULTURAL LIBRARY (NAL):** foodsafety.nal.usda.gov/
- **EMERGENCY SUPPORT FUNCTION PUBLIC HEALTH AND MEDICAL SERVICES:** www.fema.gov
- **EMERGENCY SUPPORT FUNCTION AGRICULTURE AND NATURAL RESOURCES:** www.fema.gov

American Red Cross (ARC), Department of Homeland Security (DHS), Department of Commerce (DOC), Department of Defense (DOD), Department of Energy (DOE), Department of Interior (DOI), Department of Justice (DOJ), Department of Labor (DOL), Department of State (DOS), Environmental Protection Agency (EPA), Department of Health and Human Services (HHS), US Agency for International Development (USAID), Department of Agriculture (USDA), US Postal Service (USPS), Department of Veterans Affairs (VA)

FUNCTION/AGENCY	ARC	DHS	DOC	DOD	DOE	DOI	DOJ	DOL	DOS	EPA	HHS	USAID	USDA	USPS	VA
COORDINATION		+									+		+		
RAPID ID OF AGENT		+									+		+		
LABORATORY CONFIRMATION		+			+						+		+		
OUTBREAK TRANSMISSION INFORMATION		+				+					+		+		
CONTROL AND CONTAIN OUTBREAK		+									+		+		
DECONTAMINATION AND DISPOSAL										+	+		+		
FOOD SAFETY AND FOOD DEFENSE											+		+		
PUBLIC HEALTH											+		+		
PUBLIC INFORMATION		+									+		+		
LAW ENFORCEMENT ISSUES		+					+				+		+		
ECONOMIC/MARKET ISSUES			+					+	+				+		
SUPPORT SERVICES (FEEDING, FACILITIES, COUNSELING, TRANSPORT)	+	+		+	+						+		+	+	+
INTERNATIONAL COORDINATION									+			+			



NOTICE: This product was developed by the Joint Counterterrorism Assessment Team, which is a collaboration by NCTC, DHS, the FBI, and state, local, tribal, and territorial government personnel to improve information sharing and enhance public safety. The product is intended to promote coordination among intergovernmental authorities and the private sector in identifying, preventing, and responding to terrorist activities. The product is not in response to a specific threat to the Homeland and the information contained should be considered within the context of existing laws, authorities, agreements, policies or procedures within responding agencies’ jurisdiction. For additional information contact us at JCAT@NCTC.GOV.

Complex Operating Environment - Food and Agriculture (continued)

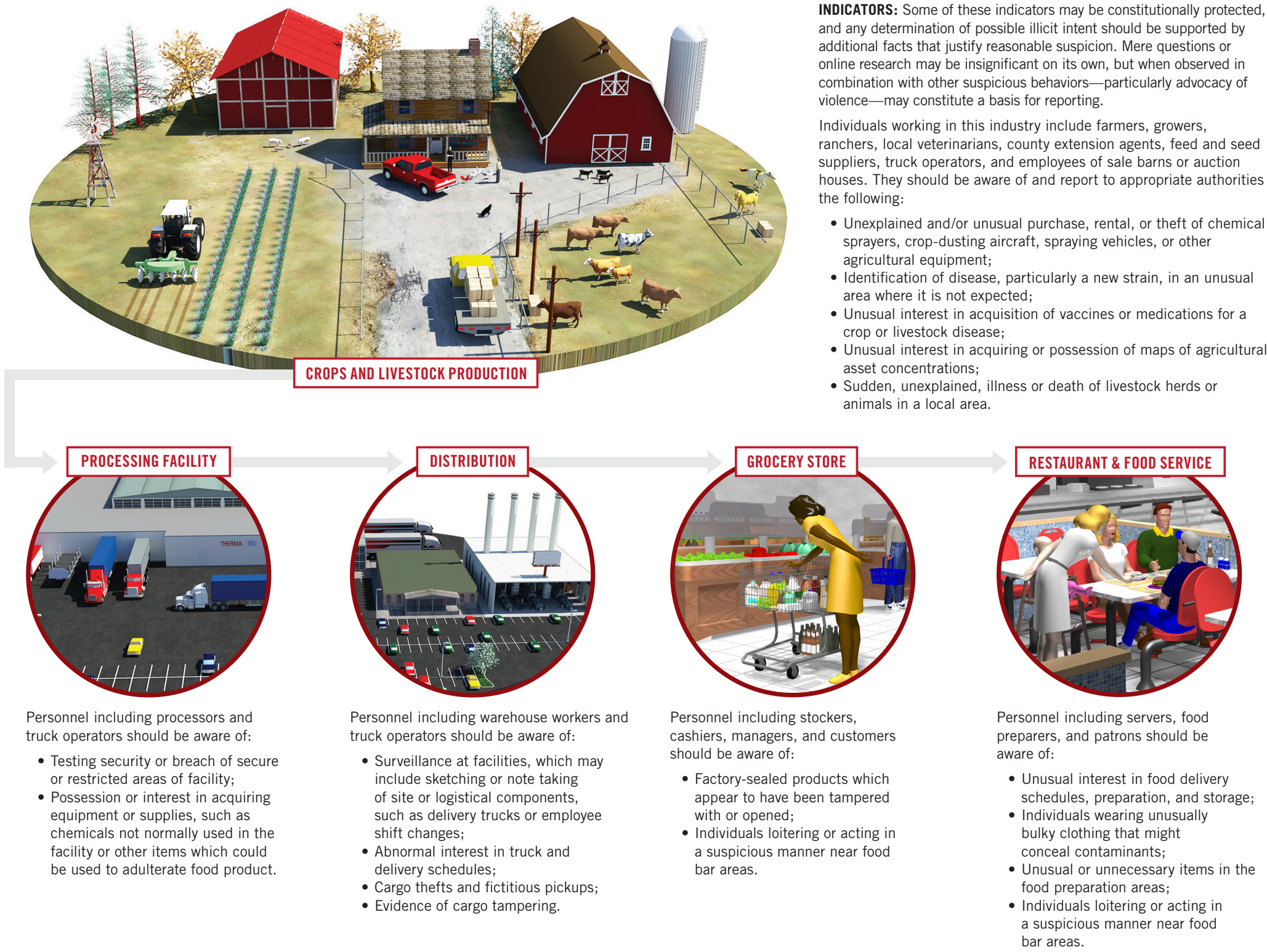
“FARM-TO-TABLE” CONTINUUM

The majority of US food is produced through a series of processes commonly referred to as the “farm-to-table” continuum. The process comprises multiple phases, including production, processing, distribution, transportation, wholesaling, exporting/importing, retail sales, and consumption. Each component of the farm-to-table continuum is achieved in a variety of ways that is specific to the particular end product being produced, and each component requires special attention to address security concerns that reduce the chances of individuals intentionally contaminating the food supply. Ensuring safe food along all points of the farm-to-table continuum is a vital function in protecting public health. It is recommended that businesses that make up the farm-to-table continuum create a food defense plan appropriate to their operation. This plan, coupled with suspicious activity awareness, will help owners and operators to identify and implement measures to minimize the vulnerability of food products that may be intentionally contaminated or tampered with during each phase of the supply chain.

PRIVATE-SECTOR PREVENTION AND PREPAREDNESS CONSIDERATIONS:

Be aware of and report suspicious activity—such as unscheduled maintenance, deliveries, or unknown visitors—to appropriate authorities.

- Develop procedures for notifying appropriate authorities if a food-related emergency or suspicious incident occurs;
- Check state requirements for the recommended notification sequence. Also, keep an up-to-date list of local, state, and federal emergency, Homeland Security, and public health contacts. Establish such contacts and relationships in advance;
- Report threats and suspicious activity promptly to appropriate authorities;
- Develop procedures for the safe handling and disposal of contaminated products. Identify where and how to separate suspected products before salvage to allow for investigation and discovery of evidence;
- Develop procedures for handling threats and actual cases of product tampering;
- Maintain records for returned goods;
- Processors, transportation managers, and wholesale and retail distributors should ensure the traceability and recall of products;
- Keep records for trace-back and trace-forward as they are essential to containing the impact of an incident;
- Discuss security and response plans with shippers to ensure they are aligned;
- Ensure emergency contact procedures are in place. Include facility personnel, as well as shipper and customer contacts;
- Maintain established procedures for proper evidence control when tampering is suspected. Discuss the appropriate procedures to be followed to maintain control and chain of custody of potential evidence with local law enforcement, the USDA Office of Inspector General, FDA Office of Criminal Investigations or local FBI Weapons of Mass Destruction Coordinator contacts.



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