| How Sweet It Is(n't) Logo Stealthy Situation Logo Wilted Woes Logo High Plains Harbinger Logo Insider Addition Logo | Food  Related  Emergency Exercise Bundle  **(FREE-B)**  **Foul Fodder**  **Situation Manual** | Foul Fodder Logo Wat'er You Thinking Logo Mass Mayhem Logo |
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# Introduction

## **Purpose**

To protect the health of the American public, it is crucial that we ensure that food products are safe for consumption. Everyone involved in the food chain, from farmer through consumer, has a responsibility to keep the food supply safe.

At any point during production or distribution, food can be contaminated either accidentally from employee error, or on purpose from sabotage, fraud or terrorist activities. Regardless of the circumstances, the US [Food and Drug Administration](http://www.fda.gov) (FDA) and United States Department of Agriculture [Food Safety and Inspection Service](http://www.fsis.usda.gov/) (USDA FSIS), collaborating with State and local agencies, work closely to safeguard the American food supply.

Through this working relationship, the FDA and USDA FSIS continuously seek new ideas and strategies to reduce the incidence of human health emergencies and to support food defense-related innovation. In light of food defense concerns, it is incumbent that local, State, and Federal governments and industry partners understand the roles and responsibilities of all participating entities.

This exercise scenario focuses on the investigation of intentional product contamination with organic chemicals and protocol procedures used by agricultural, local, State, and federal agencies, as well as their roles and responsibilities. The scenario also includes the importance of biosecurity in the food/feed industry and the results and impact of product recall due to intentional contamination.

## **Participants**

Through the collaboration and coordination with multiple stakeholders, many will benefit from participating in this scenario. We encourage as many of the following groups as possible to participate in this exercise so that they can contribute to the overall understanding of the scenario, develop and/or strengthen working relationships with other organizations and benefit from the collective dialogue.

Participants in this scenario should include: clinical practitioners, emergency department staff, medical care associates, doctors, food/feed industry representatives, local health departments, State health department, department of natural resources, department of agriculture (feed, food), board of animal health representatives, federal agencies (FDA District Office, FDA Center for Food Safety and Nutrition (CFSAN), FDA Center for Veterinary Medicine (CVM), United States Department of Agriculture (USDA), United States Environmental Protection Agency (EPA), Federal Bureau of Investigations (FBI), Office of Criminal Investigations (OCI), laboratory staff, fire and law enforcement, Emergency Medical Services (EMS), media, and consumers.

**Goal**

This tabletop exercise provides participants with an overview of what happens at the local, State, and Federal levels during a food-related incident. It will focus on the role that key personnel play in containing the problem and protecting consumers. A large amount of information in this tabletop exercise will be generated from discussions among participants as they go through a hypothetical scenario. During the tabletop exercise, participants will assess plans, policies, and procedures and think about how you would realistically apply them in the event of an incident. This tabletop exercise will help to facilitate discussion among various participating entities, such as medical doctors, State and local entities, and the private sector.

## **Exercise Objectives**

At the conclusion of this tabletop exercise, participants will be able to:

* Articulate their specific roles and responsibilities to other professionals in reacting to an intentional contamination.
* State the purpose of having multiple agencies and assume distinct and sometimes overlapping duties to effectively address and remedy the situation.
* Collaborate with a diverse group of responders that may not have worked together before, such as the media, law enforcement, risk managers.
* Identify other entities or agencies that are needed to properly address the situation but which have not been included on the team.
* Propose comprehensive, collaborative, and effective ideas, strategies, and solutions to ensure the timely remediation of the contamination event.
* Identify the strengths and development needs of your own agency or department and identify the actions you will take to champion the change required to improve or enhance your team’s ability to respond to a food-related emergency.

## **Exercise Structure**

This exercise is designed to be an interactive, facilitated tabletop exercise. Participants are encouraged to learn from each other and ask questions of one another. The scenario is based on a real situation and has been designed by a group of subject matter and instructional design experts to provide participants with a real life, plausible food safety scenario. While this scenario has been simplified in order to present the information in an effective way, the scenario itself and the discussion questions have been designed to encourage participant dialogue and surface topics that are critically important to reacting to such incidents. The exercise has also been developed to provide participants with an opportunity to explore important topics such as interagency collaboration, jurisdictional issues, and risk communication. The information in this scenario reflects the policies and procedures currently in use and is accurate as of November 2013. If there has been an update to the procedure in your jurisdiction, please be sure to make the group aware of the change and work with the facilitator to ensure that all participants understand the update.

This exercise was developed by the Institute of Food Technologists (IFT) on behalf of the Food and Drug Administration CFSAN Food Defense Oversight Team.

This exercise is a multimedia, facilitated tabletop exercise (TTX). Participants will respond to three different modules:

* **Module 1** **–** Intentional Contamination
* **Module 2 –** Identification and Investigation
* **Module 3** – Research and Results

## **Exercise Guidelines**

As with any learning experience, it is important that this exercise is conducted in a safe learning environment so that all participants can share and explore concepts with one another, while discussing multiple solutions and options for a given issue. This exercise will operate under the following guidelines:

* This will be an open, low-stress, and non-public learning environment and is not intended to set precedents.
* Participants will listen to and respect the varying viewpoints of all of the other participants.
* The scenario to be discussed is hypothetical yet plausible; the events could occur as presented. Suspend your disbelief, and feel free to discuss differing policies and procedures during the breakout discussion.
* Today’s facilitator is not necessarily a subject matter expert, and participants are expected to provide the expertise needed to ensure that our discussion is accurate and thorough
* We will apply findings from today’s activities to our job/functions and share key findings with colleagues.

## **Roles and Responsibilities**

**Lead Planner –** The person who has overall responsibility for the tabletop exercise, including convening the Planning Team and all pre- and post-exercise needs

**Participants –** Respond to the scenario based on their first-hand, experiential knowledge; current plans and procedures of their individual entity, agency or jurisdiction; and insights from training and experience.

**Evaluator(s) –** Record the highlights of the discussion at each breakout table. These people do not participate in the exercise but capture the essence of the dialog for use in the After Action Report. They are chosen based on their expertise in the areas they are to observe.

**Facilitator –** Generally leads the exercise, provides situation updates and moderates discussions. They also provide additional information and resolve questions as needed. Key officials may also assist with the facilitation as subject matter experts during the exercise.

**Group Leader –** Representative from each table (volunteered by the group) who will lead the group as it explores discussion questions and the breakout activities.

**Group Recorder/Reporter –** Representative from each table (volunteered by the group) who will ensure that the group discussions are kept on time, record the key themes discussed at the table, and will be responsible for reporting out during the large group dialogue.

# Module 1 – Intentional Contamination

The County Sheriff’s Department received a telephone call from the Police Chief who received a letter from an unidentified individual. In the letter, the individual stated that the chemical powder included in the envelope had been used to contaminate raw and finished materials at the XYZ plant.

Immediately after the telephone call, the County Sheriff’s dispatch contacted the Environmental Health Specialist/Deputy Sheriff (EHS/DS) with regard to the claim of intentional contamination at the plant and the available sample at the police department.

The EHS/DS urgently arrived at the police department and began the investigation. He obtained the letter and proceeded to secure the sample. Residual dust from the envelope was collected. Using a chemical indicator test, the sample was found to be an organic chemical. The letter was taken into custody – information provided stated dead stock and tallow had been contaminated. The letter went on to state that chronic odor issues related to the plant were the basis for the action taken.

The EHS/DS contacted the director of the XYZ plant and informed him about the letter, its claim, and that an organic chemical powder from the letter was secured for sampling and would be tested. He also recommended that the plant cease production and distribution of finished product pending sample results. XYZ plant’s finished product consisted of meat and bone meal supplied to ABC company and others who used the product for pet food. Tallow was produced and provided for feed to cattle including dairy cattle. XYZ agreed to cease operation and distribution that was in transit.

The EHS/Deputy Sheriff took a sample of the powder to the Occupational Health Lab (OHL) for analysis and contacted the Department of Agriculture Trade and Consumer Protection (DATCP) to inform them of the issue. DATCP would dispatch investigator the next day.

Meanwhile, FDA District Officer (FDA DO) and CVM are contacted about the claim of intentional contamination at the XYZ plant and that residual dust from the original envelope was found to be an organic chemical by using a chemical indicator test. CVM communicated with FDA DO and asked that a Consumer Safety Officer (CSO) be sent to the plant to help the investigation process. CVM requested that FDA-DO collect finished product and environmental samples. CVM is also looking for the complete distribution chain (names of customers) of the finished product from XYZ plant.

## **Developments**

1. An unidentified letter was received by the Police Chief. The letter contained chemical powder used to contaminate raw and finished materials at a local plant
2. The XYZ plant agreed to cease production and distribution of finished product
3. The State Department of Agriculture Trade and Consumer Protection (DATCP) and FDA District Office were notified
4. A powder sample from the envelope received by the Police Chief was taken to the State Lab for analysis.

## **Task**

Use your allotted time to consider the developments and questions assigned to your group for Module 1.

1. Identify any additional requirements, critical issues, decisions, and questions you think should be addressed at this time.
2. Unanswered questions should be recorded for discussion with the entire group.

## **Questions for Participant Groups**

**Overarching**

1. Based on the information provided, what can you conclude as the probable reasons for the intentional contamination of raw and finished products?

**Clinical Practitioners, Emergency Department Staff, Medical Care, Doctors**

1. In the event of an intentional contamination occurring, how would your organization hear about the news? With this type of information, would you be notified? If so, by who?
2. What standard operating procedure (SOP) do you have for an incident involving intentional contamination?
3. What actions would you take, if any, to communicate with the public health authorities that an intentional contamination of raw and finished product occurred?
4. How do you keep other practitioners, emergency department staff members, medical care members, and doctors aware and in-touch with news and updates?

**Food/Feed Industry**

1. What Standard Operating Procedures (SOP) does your facility follow when an intentional contamination occurs?
2. How does your quality assurance team ensure that proper procedures are followed?
3. What agencies or departments does your Safety, Health, and Environmental department contact if an issue such as intentional contamination arises?
4. Do you have an Emergency Response Plan?
   1. Who is in charge of implementing the emergency plan?
   2. What authority do they have?
5. Are your manufacturing records readily accessible?
   1. Can they identify the suspect product?
   2. Is the suspect product traceable?
6. If the contamination is confirmed, what do you need to do to halt production?
   1. Do you have a recall plan?
7. Do you have the ability to segregate and store potentially contaminated product?
8. Do you have the ability to store suspect product that is returned? What about storage of tainted raw materials?

**Local Heath Department(s)**

1. How is your organization informed about food and health related issues?
2. Do you keep in contact with other local departments and organizations? If so, how is information shared between departments/organizations.

**State Health Department, Department of Natural Resources, Department of Agriculture (Feed, Food, and Dairy), Board of Animal Health**

1. How is your organization informed about food and health related issues?
2. With the current information provided, are there other parties that should be notified?
3. What are the roles of each organization in an issue concerning intentional contamination of food?
4. Animal feed is the food of concern in this scenario. What would the department of natural resources, department of agriculture, and/or board of animal health do to communicate the issue?
5. How is the powder sample collected?
6. What safety precautions must be taken at the sheriff’s office?
7. Will the public be notified at this point in the investigation?

**Federal Agencies (FDA District Office, FDA CFSAN, FDA CVM, USDA, EPA, FBI/OCI)**

1. How is your organization informed about food/health related issues?
2. How are the actions of the agencies communicated to the public?

**Laboratory Staff**

1. What kind of testing is needed to determine the chemical powder and how long will it take to receive the results?
2. Who do you notify about the results?

**Fire, Law Enforcement, EMS**

1. What consequences will the suspects face with a crime as severe as intentional contamination of food?

**Media, Consumers**

1. How do you differentiate between unintentional and intentional contamination of food?
2. Did you purchase products that may have been affected by the contamination?
3. Where there any signs of your pet acting strangely or differently?

# Module 2 – Identification and Investigation

The EHS/DS received the results from the OHL revealing the powder as chlordane.

**Chlordane General Facts**

**The National Pesticide Information Center (NPIC) has available a general fact sheet on chlordane that provides answers to commonly asked questions (**[**http://npic.orst.edu/factsheets/chlordanegen.pdf**](http://npic.orst.edu/factsheets/chlordanegen.pdf)**). Chlordane is a pesticide introduced in the United States in 1948. It is a chemical for use against insects on food and non-food environments.**

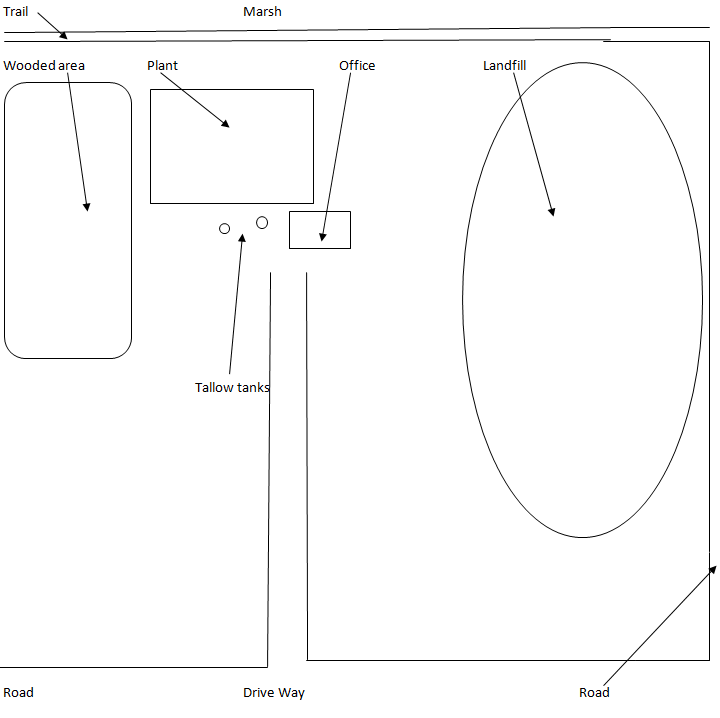
**There are many ways to manufacture chlordane and its toxicity and odor intensity can vary. Today, Chlordane can be legally manufactured in the United States, but can only be sold to or used by foreign countries. Use of chlordane was cancelled due to its characteristics of being a potential carcinogen and properties of harming the environment.**

The EHS/DS immediately informed the XYZ plant and the DATCP of the test results and recommended thorough screening of all products, vehicles, raw material (dead carcasses), finished meat and bone meal, and tallow. The tested/screened samples were secured and driven to OHL. DATCP arrived on site and took the lead on the investigation as agency of jurisdiction with assistance from the EHS/DS.

Meanwhile, FDA-DO notified CVM that XYZ was made aware of the sample results and that some of the affected product was currently on hold at the firm. The District instructed the CSO to collect additional samples. The additional samples were to be sent to FDA lab for analysis.

The EHS/DS looked into security systems in place at the plant. He discovered the plant had no fence or security making it accessible from all four sides.

Figure 1. XYZ Plant Layout



## **Developments**

1. The State lab identified the powder as chlordane
2. The recommendation was made that XYZ plant and the State DATCP test/screen the following:
   1. All products,
   2. Vehicles
   3. Raw materials (dead carcasses)
   4. Finish meat and bone meal and tallow
   5. XYZ’s draining system
3. XYZ’s plant layout had no fence or security and was accessible from four sides.

## **Task**

Use your allotted time to consider the developments and questions assigned to your group for Module 2.

1. Identify any additional requirements, critical issues, decisions, and questions you think should be addressed at this time.
2. Unanswered questions should be recorded for discussion with the entire group.

## **Questions for Participant Groups**

**Overarching**

* 1. Based on the information about chlordane, what could you conclude as to why chlordane was used to contaminate raw and finished product?
  2. How was chlordane introduced?

**Clinical Practitioners, Emergency Department Staff, Medical Care, Doctors**

* 1. How does chlordane affect your body? What happens when it is consumed?
  2. What are the side effects for chlordane? Will a significant change be noticeable?
  3. How do you treat consumption of chlordane?

**Food/Feed Industry**

* 1. What kind of screening will be performed and how?
  2. Do you have security employees? If so, where are they located?
  3. Does your facility have an emergency plan? If yes, describe the plan.
  4. Are all employees aware of your emergency plan protocol? If yes, how are they aware?
  5. What are your preventative measures in place for intentional contamination?
  6. Do you communicate with local, State, and Federal agencies, and departments, on a daily basis?
  7. Does knowing the identity of the powder affect your reaction to the emergency?
  8. How do you deal with the need for publicity in this situation?
  9. How do you assure that the entire suspect product is identified and segregated to prevent its distribution or use?

**Local health department(s)**

* 1. How do you communicate the information to other departments in the local area?
  2. Do you contact the state health department and other agencies?

**State Health Department, Department of Natural Resources, Department of Agriculture (Feed,** **Food, and Dairy), Board of Animal Health**

* 1. Knowing the substance used for contamination, what will each of your departments do to deliver the information?
  2. How does chlordane affect animals? What happens if it is consumed?
  3. Will chlordane leave a residue in animals if consumed? If so, what is the withdrawal time, if any?
  4. Who will be informed?
  5. What samples need to be taken?
  6. Does you agency review manufacturer’s emergency plans? If so, how do you evaluate the following:
  7. Is it adequate?
  8. How is it implemented?
  9. Who is in charge of carrying out the emergency plan?
  10. What authority do they have?
  11. Does your agency monitor the manufacturer’s response plan? If so, how do you determine if it is adequate?

1. What can you do if you find the manufacturer’s response inadequate?
   1. Would your agency be issuing public communications?
2. Do you coordinate communication with the manufacturer?
3. Do other agencies need to be made aware of the circumstances in advance of the publicity?
   1. What additional records would you review? What information are you looking for in those records?
      * How are the manufacturing records developed?
      * How are the manufacturing records maintained?
      * Are the manufacturing records readily available?
      * How is production identified, i.e. lot numbers, by production date?
      * Can dates of production be correlated to a suspect time frame?
      * Can shipped product be identified?
      * Can shipped product be tracked?
   2. Would you take additional samples? If so, who is going to be taking samples (State, manufacturer)?
      * Who will be doing the analysis?
      * How quickly can the suspect samples be analyzed?
   3. Has distribution created exposure problems?
   4. Has distributed product been used in further manufacturing?

**Federal agencies (FDA District Office, FDA CFSAN, FDA CVM, USDA, EPA, FBI/OCI)**

1. How will your agency assist in the screening process of potentially contaminated product?
2. How does this kind of contamination affect the departments that work with specifically animals?
3. What kinds of organizations rely on your agencies? How do you communicate with them?

**Laboratory Staff**

* 1. Can your laboratory test for choldane?
  2. What procedure will be performed to determine the chemical powder? How long will the procedure take?
  3. What is the risk assessment of this chemical?

**Fire, Law Enforcement, EMS**

* 1. What is your role when helping the facility with the establishment of a security protocol?
  2. What tools do you use to determine/identify the suspect?
  3. Has all evidence for sampling been obtained?

**Media & Consumers**

* 1. Have you heard news about potential recalls of any products you purchased? How were you informed? Who notified you?
  2. How long did it take for you to discover the problem with the animal feed you purchased?
  3. Did you notice any changes in your animal or pet?

# Module 3 – Research and Results

Sample results received from the OHL found traces of chlordane in multiple samples including raw product, trucks, finished meat and bone meal and tallow. Information on chlordane indicates that it bioaccumulates in fatty tissues. Chlordane identified on finished product, triggered a contamination link to the human food chain given that finished tallow was used in dairy cow feed. Thus, chlordane could transfer via milk. Meat and bone meal impacted ABC’s plants who may have received finished meat and bone meal from the XYZ plant.

Meanwhile, CVM was informed by FDA-DO that all collected samples were identified as positive for chlordane. CVM was also informed by FDA-DO that OHL found all collected samples as positive for traces of chlordane. XYZ is conducting a recall with the assistance of their District office. CVM is working through the appreciate District office while reviewing the laboratory analytical results to determine recall classification.

Follow-up samples confirmed chlordane in products produced at the ABC plant in State A. The confirmation resulted in a four-state recall of ABC products affected. Human link resulted in immediate contact with the US Food and Drug Administration (FDA). The FDA Office of Criminal Investigations (OCI) dispatched to the XYZ plant to seize the investigation.

CVM determined that the product would be a class 1 recall with press release for all contaminated and adulterated products of both XYZ and ABC plants. CVM also recommended that FDA-DO supervise the XYZ and ABC firms’ cleaning processes and establish preventative control plans. XYZ and ABC asked CVM to provide guidance for the disposition of all products recovered through the recall.

## **Developments**

1. Results received from State Lab found traces of chlordane in multiple samples of raw product, trucks, meat and bone meal and tallow
2. Chlordane bioaccumulate in fatty tissues
3. Contamination linked to human food chain found in finished tallow used as a part of dairy cow feed and could be transferred via milk
4. Four state recall of products of a national pet food brand was implemented
5. FDA OCI conducted further investigation

## **Task**

Use your allotted time to consider the developments and questions assigned to your group for Module 2.

1. Identify any additional requirements, critical issues, decisions, and questions you think should be addressed at this time.
2. Unanswered questions should be recorded for discussion with the entire group.

## **Questions for Participant Groups**

## **Overarching**

1. What can be done to prevent this incident from occurring again?

**Clinical Practitioners, Emergency Department Staff, Medical Care, Doctors**

1. Chlordane bioaccumulates in fatty tissues. How does this affect humans and animals?
2. What are the ways to dispel chlordane from your system? Will it be removed completely?

**Food/Feed Industry**

1. How do the results affect production at the facility? Can they facility continue to run after learning the results?
2. Does your facility have a standard operating procedure (SOP) for recalls? What will happen to raw and finished product after the chemical is identified?
3. What will happen to the facility after the chemical is identified?
4. Are there other facilities that will be affected by the contamination? Have you informed vendors, consumers, and/or customers?
5. How can a reoccurrence be prevented?
6. Was this emergency preventable?

**Local health department(s)**

1. Will there be any changes within the community after news has reached the public?
2. What is the plan to ensure that the local area and future production is safe and not harmful?

**State Health Department, Department of Natural Resources, Department of Agriculture (Feed, Food, and Dairy), Board of Animal Health**

1. What is the plan to ensure that raw and finished products are safe to consume?
2. Does your agency evaluate plant security:
   1. How was the individual able to contaminate the product?
   2. What can be done to prevent a reoccurrence?
3. With the potential for the contamination of human and animal food, are additional actions needed?
   1. What other agencies need to be contacted?
   2. What roles will they have in this emergency?
4. Did unaddressed regulatory violations create this type of incident?
5. Is there any responsibility to help the firm recover from this emergency?

**Federal agencies (FDA District Office, FDA CFSAN, FDA CVM, USDA, EPA, FBI/OCI)**

1. Who will determine that the facility will be able to produce safe and clean product? How?

**Laboratory Staff**

1. Is any further lab work needed?
2. After the incident is concluded, are there any stricter lab specifications on raw and finished product results needed?

**Fire, Law Enforcement, EMS**

1. Have standard operating procedures (SOP) been established on how to receive and open mail from anonymous senders?
2. If the facility has a security system, have they contacted law enforcement about helping with security at the facility?

**Media, Consumers**

1. How long after the purchase of the product did you hear about the recall?
2. How many forms of media kept you aware of the recall? Was the information accurate? Did the information leave you confused?

# Wrap Up Activities

## **Scenario Conclusion**

Investigation conducted by local resources began with review of odor complaints received by the EHS/DS over the previous 6-9 months. Numerous potential suspects were cited including a County Board Supervisor, who had been one of the most vocal in the process along with approximately 10 other neighbors. Other suspected individuals included competitors. Information provided to two FDA OCI investigators, who continued the investigation.

1. The investigation was conducted by FDA OCI for approximately 6 months
2. The investigation resulted in conviction of a disgruntled competitor
   1. Final sentence details (federal conviction, sentence) are unknown
3. Contamination was done on site and into dead-stock trucks in multiple locations in the state primarily from central pick up sites
4. Impact on XYZ plant:
   1. $2.5 million loss
   2. Four-state recall which resulted in long term business issues with the ABC plant
   3. Additional security required
   4. Additional odor control installed
   5. Changes made to dead stock handling, transport and finished product security and batch documentation.

## **Discussion**

We will spend the remaining time synthesizing what we discussed today, identifying important action steps to include in the After-Action Report and Improvement Plan (AAR/IP) and obtaining your feedback on the overall exercise. An AAR/IP is an important tool used to evaluate the exercise, addressing outcomes, strengths, weaknesses, and lessons learned. The facilitator will let you know when to expect to receive the final AAR/IP. The AAR/IP should be treated as a “For Official Use Only” document and only shared with those having a need to know.

At your table, please take a few minutes to discuss the questions below as directed by the facilitator. We will then take some time as a large group to identify common themes and takeaways. At the conclusion of this discussion, we ask that you complete the feedback form that will be provided by your facilitator.

**Wrap-Up Discussion Questions**

1. What is the most important thing you learned today in terms of managing an outbreak that impacts multiple jurisdictions?
2. What information do you need make informed decisions during such an event? If you don’t have that information, how do you get it or what needs to be done to make a decision without it?
3. Do you think this exercise will prompt your organization to evaluate your protocols, policies, and procedures?
4. Based upon what you have learned from this exercise, what top three actions should be taken to ensure proper incident management in the future?
5. What went right and what can be improved on at each stage of the outbreak investigation?
6. What are the roles and responsibilities of the various clinical, public health, regulatory, and laboratory communities engaged in this investigation?
7. What could be done through all phases to reduce the time from the first signal of the incident to implementation of effective controls to final resolution in order to protect public health and reduce the economic impact on the entire industry?
8. What are some key lessons related to risk communication that you discussed today? What can you commit to doing to ensure that your organization supports a consistent, multi-jurisdictional, science-based message in the event of a foodborne illness outbreak?
9. How can you work to build relationships with the CDC, FDA, other government agencies and the industry so that you have a consistent line of communication open at all times?

# Appendix A: Resources

CDC. National Outbreak Reporting System. Guidance document for NORS users. http://www.cdc.gov/outbreaknet/pdf/NORS\_Guidance\_5213\_06232009%28compliant%29.pdf

IAFP. Procedures to Investigate Foodborne Illness http://www.foodprotection.org/files/other-publications/procedures-forms.pdf

CIFOR. Diagnosis and Management of Foodborne Illnesses: A Primer for Physicians and Other Health Care Professionals http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5304a1.htm; http://www.cifor.us.

CIFOR. Guidelines for Foodborne Disease Outbreak Response. http://www.cifor.us/CIFORGuidelinesProjectMore.cfm

CIFOR. Toolkit for the Guidelines for Foodborne Disease Outbreak Response. http://www.cifor.us/toolkit.cfm

Hedberg, CW et al. 2008. Timeliness of enteric disease surveillance in 6 US states. Emerging Infectious Disease. 14(2):311-313

CDC. Foodborne Outbreak Investigations. http://www.cdc.gov/outbreaknet/investigations/investigating.html

Epi-Ready Foodborne Illness Response Strategies http://www.neha.org/epi\_ready/

FDA. Food Safety www.fda.gov/Food/FoodSafety/Foodborneillness/ucm235425.htm

FDA. Foodborne Illness Environmental Assessments http://www.fda.gov/Food/FoodSafety/FoodborneIllness/ucm235425.htm

CDC. Outbreak Surveillance Data. http://www.cdc.gov/outbreaknet/surveillance\_data.html

CDC. Foodborne Outbreak Investigations. http://www.cdc.gov/outbreaknet/investigations

FDA. Foodborne Illness. http://www.fda.gov/Food/FoodSafety/FoodborneIllness/default.htm

# Appendix B: Acronyms Used

AAR After-Action Report

AAR/IP After-Action Report and Improvement Plan

DATCP Department of Agriculture Trade and Consumer Protection

DS Deputy Sheriff

EHS Environmental Health Specialist

EMS Emergency Medical Services

FDA Food and Drug Administration

OCI Office of Crime Investigations (FDA)

OHL Occupational Health Lab