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FLORIDA LAW ENFORCEMENT'S ROLE IN AGROTERRORISM

by

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December 2014

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FLORIDA LAW ENFORCEMENT'S ROLE IN AGROTERRORISM

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ABSTRACT

The 2005 Department of Justice's National Institute of Justice report *Defining Law Enforcement's Role in Protecting American Agriculture from Agroterrorism* was used as a framework for analyzing the State of Florida's capabilities for preparing and responding to an agroterrorism attack. A series of desired capabilities were developed from the report's conclusions and recommendations, and research was conducted to establish Florida law enforcement's current capabilities. From these two points of reference, gap analysis identified the deficiencies in Florida's capabilities.

Research and analysis found Florida's preparation capability gaps revolve around a general lack of intelligence and information sharing focused on the agriculture sector. The key recommendation is creation of a state agriculture intelligence and analysis unit interacting with the fusion centers, critical infrastructure protection program, and the food and agriculture sector. Florida's response capabilities were found to be quite robust. Gaps found in the area of response could be closed with relatively minor policy and strategy enhancements.

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LIST OF ACRONYMS AND ABBREVIATIONS

APHIS	Animal and Plant Health Inspection Service
CEMP	Comprehensive Emergency Response Plan
CJSTC	Criminal Justice Standards and Training Commission
CSF	classical swine fever
DAI	Division of Animal Industry
DFS	Division of Food Safety
DHS	Department of Homeland Security
DOJ	Department of Justice
ESF	Emergency Support Function
FAC	Florida Administrative Code
FACIU	Florida Agriculture Crimes Intelligence Unit
FAD	foreign animal disease
FAD-ERP	Foreign Animal Disease Emergency Response Plan
FBI	Federal Bureau of Investigation
FDA	United States Food and Drug Administration
FDACS	Florida Department of Agriculture and Consumer Services
FDLE	Florida Department of Law Enforcement
FEMA	Federal Emergency Management Agency
FERP	Food Emergency Response Plan
FLIRRT	Florida Integrated Rapid Response Team
DAI	Division of Animal Industry
DBPR	Florida Department of Business and Professional Regulation
DOH	Florida Department of Health
DSOC	Domestic Security Oversight Council
FFC	Florida Fusion Center
FLIRRT	Florida Integrated Rapid Response Team
FMD	foot-and-mouth disease
FSS	Florida State Statutes
HITS	Horse Shows in the Sun
I&A	intelligence and analysis

ICS	incident command system
IMT	incident management team
JTTF	Joint Terrorism Task Force
MAC	Multi-Agency Coordination Group
NAIS	National Animal Identification System
NIJ	National Institute of Justice
NIJ212280	National Institute of Justice Report 212280
NIMS	National Incident Management System
NRF	National Response Framework
OALE	Office of Agricultural Law Enforcement
PPQ	Plant Protection and Quarantine
RDSTF	Regional Domestic Security Task Force
RRT	rapid response team
SART	State Agricultural Response Team
SEOC	State Emergency Operations Center
SFIT	Smuggled Food Interdiction Team
SITC	Smuggling Interdiction and Trade Compliance
SOG	standard operating guide
SWG	State Working Group
UASI	Urban Area Security Initiative
USDA	United States Department of Agriculture
VSv	vesicular stomatitis
WIFSS	Western Institute for Food Safety and Security
WMD	weapons of mass destruction

EXECUTIVE SUMMARY

The food and agriculture sector is one of the United States' most important critical infrastructures, with agriculture and agribusiness related industries employing over 16 million Americans and representing 4.8 percent of the U.S. Gross Domestic Product according to the United States Department of Agriculture Economic Research Service. Agriculture is a tremendous contributor to American prosperity and the American way of life. Unfortunately, this vital industry exists every day under a looming threat. The Federal Bureau of Investigation has referred to agriculture as among the most vulnerable and least protected of all potential targets of terrorism.

Acts of terrorism targeting the food and agriculture industry are referred to as *Agroterrorism*, a relatively new term that first began to appear in the literature around 2000. Agroterrorism is a subset of bioterrorism because the means of attack would most likely involve use of a biological agent such as a plant or animal disease. The James Martin Center for Nonproliferation Studies of the Monterey Institute of International Studies has catalogued 23 occurrences of chemical or biological weapon incidents targeting agriculture between 1915 and 2008, of which 19 are defined as acts of agroterror. The literature and subject-matter experts are in near total agreement that the most likely scenario for an agroterrorism attack in the U.S. would be the intentional introduction of a foreign animal disease such as foot-in-mouth disease to livestock. There are numerous naturally occurring disease outbreaks from around the world to examine for prevention, response, and consequence issues. Economic damage from these outbreaks has cost in the tens of billions of dollars.

A review of the literature reveals a myriad of current issues in agroterrorism being researched, analyzed, and discussed by academics and practitioners alike. Despite the topic of agroterrorism having obvious direct links to terrorism, homeland security, and criminal justice, very little is found in the literature concerning law enforcement's role in agroterrorism. In fact, other than a few small specific references to law enforcement-related issues embedded in some papers, there is only one academic research study specifically focused on law enforcement and agroterrorism. This study resulted in the

2005 Department of Justice's National Institute of Justice (NIJ) report *Defining Law Enforcement's Role in Protecting American Agriculture From Agroterrorism*.

In this study, the NIJ commission established baseline data by surveying Kansas sheriffs and livestock industry stakeholders about agro and bio terrorism and studying the complexities of agro-movement. Recommendations were made for sweeping policy changes and new collaborative programs, which were enacted in Kansas. These included law enforcement intelligence networks, which included specific focus areas on agriculture, agriculture event response teams comprised of animal health experts and criminal investigators, forensic evidence procedures for animal events, interaction with the community and industry through the AgroGuard program, collaboration with USDA via their Smuggled Food Interdiction Teams, and new agroterrorism training initiatives for law enforcement, animal health professionals, livestock industry stakeholders, and the community.

The authors of the NIJ study reached a series of conclusions and recommendations regarding law enforcement's role in defending against agroterrorism and what enhancement steps should be taken. The conclusions and recommendations from the NIJ study became the basis for this thesis. As the only academic study of its type in existence, The NIJ study and findings were taken as a framework for what law enforcement's roles and capabilities should be in defending against agroterrorism. This framework was used to analyze Florida law enforcement's capabilities after a Florida assessment was conducted. The analysis revealed gaps in Florida's capabilities, and recommendations to fill these gaps were developed.

Many of the specific recommendations outlined in the NIJ study were directed at the federal government and were, thus, outside the scope of this thesis. Findings, conclusions, and recommendations from the study focusing on the state and local level had potential applicability to Florida. The following questions were developed from the study to analyze Florida law enforcement's capacity to accomplish their roles and responsibilities in the prevention and response to agroterrorism:

- Is there a strategy for identifying threats to, and assessing the vulnerability of, the agriculture community in Florida?
- Does the capacity exist in Florida to effectively collect, analyze, and disseminate agriculture related information and intelligence?
- Is there a community policing strategy in the Florida agriculture community? NIJ212280 recommends the Agro-Guard model.
- In the event of a Foreign Animal Disease (FAD) event response, does the capacity exist to simultaneously handle the animal health related issues, as well as manage crime scene and evidentiary requirements and conduct a criminal investigation, if required. NIJ212280 recommends establishment of a rapid response team (RRT).
- Does Florida law enforcement possess the capacity to enforce quarantines and stop movement plans in the event of an FAD event?
- Does Florida engage in the interdiction of illegally imported and possibly contaminated food products? NIJ212280 recommends establishment of a SFIT.
- Are agroterrorism trainings available and/or being delivered to Florida law enforcement?

In the course of researching for the Florida assessment, several organizations and programs were identified as having a primary role in this endeavor. Included among these were the Florida Department of Agriculture and Consumer Services (FDACS) and several sub-divisions and programs, including the Office of Agricultural Law Enforcement (OALE), Division of Animal Industry, Division of Food Safety, and the State Agricultural Response Team (SART). Also included at the state and regional levels were the Florida Fusion Center and the Regional Domestic Security Task Force. Local level involvement included Florida Sheriff's Offices, primarily via the Florida Agriculture Crimes Intelligence Unit (FACIU). The functions of these entities and programs were analyzed within the context of the questions identified from the NIJ study to analyze Florida law enforcement's capacity to accomplish their roles and responsibilities in the prevention and response to agroterrorism.

In the context of the seven questions, the findings suggest that Florida was better prepared in the response categories and had some significant gaps in the prevention categories. The response related capabilities to be met included the capacity to respond to an FAD event and simultaneously handle the animal health related issues as well as

manage crime scene, evidentiary requirements, and conduction of criminal investigation, and quarantine enforcement capabilities. Florida already has many of the response recommendations from NIJ study in place and working. The element that is missing from Florida's capabilities is having a law enforcement component intrinsic to their response.

This missing element results in two gaps. First, there is no criminal investigation element as an intrinsic part of an animal disease response event. Second, there is no ability to immediately enforce quarantines, stop movements, and if needed, to enforce public order at the scene of the outbreak. The second element of law enforcement's response capabilities in the NIJ212280 concerns quarantine and stop movement enforcement. The research found Florida has extensive capabilities and experience in enforcing agriculture quarantines, both at the state borders and within the state. These response gaps are not due to the lack of capability, but rather are gaps in policy and planning and thus easily remedied.

Research and analysis into Florida law enforcement's agroterrorism prevention capabilities found strengths as well as significant gaps. Some areas were identified in which solid prevention efforts have been taken, such as contaminated food interdiction. In fact, the research found that the existing food interdiction system in place now in Florida achieves the desired goals as outlined in the NIJ study, requiring no enhancement. However, there were also areas found with significant gaps, such as information and intelligence, threat and vulnerability assessments and agriculture community policing.

Threat and vulnerability assessments in Florida are the purview of Critical Infrastructure Planners employed by the Florida Department of Law Enforcement and operating under the seven Regional Domestic Security Task Forces. The assessments are conducted according to Department of Homeland Security (DHS) standards and using DHS web based tools and metrics. Based on available research it appears very little attention being paid to threats and vulnerabilities in the agriculture sector.

Intelligence and information sharing specific to the food and agriculture industry was a much-discussed topic in the NIJ study, because there has typically been very little focus on this topic as compared to other homeland security intelligence issues. In Florida,

the primary means for collecting, disseminating and sharing criminal and domestic security information is via the state's seven Fusion Centers, with the Tallahassee based Florida Fusion Center (FFC) as the primary hub. There are a number of analysts and agents assigned to the FFC who analyze, process, and formulate intelligence reports in and out of the center; however, the agriculture sector expertise available to the FFC is very limited.

FDACS is in a prime position to collect agriculture information and intelligence with its regulatory bureaus in the field and its law enforcement branch. However, there is no known connection point between anyone in the regulatory bureaus and the fusion centers. OALE law enforcement members are linked to the fusion centers and OALE has an analyst linked with the fusion center. OALE does not have an agency intelligence and analysis component.

OALE is Florida's lead law enforcement agency for agriculture matters and could assume the lead role in agriculture intelligence and information. OALE could provide the unique interdisciplinary expertise combining criminal, terrorism, and agriculture perspectives for pointed analysis on information and intelligence flowing through the fusion centers as well as from other sources such as their sister bureaus in FDACS. There is a potential wealth of information on threats in the agriculture industry that could be gleaned from those non-sworn personnel working in the regulatory bureaus of FDACS who have regular contact with the food and agriculture sector, but have no tie in to the intelligence community. These are gaps in Florida's intelligence and information sharing efforts.

Florida does not have an agriculture community policing capability as described in NIJ212280. However, the organizations and processes are already in place that could be enhanced to achieve this capability. These existing mechanisms are the SART group and the FACIU. SART already exists as a partnership between FDACS and animal health through VetCore, the industry through dozens of group partnerships, and the community with thousands of affiliated volunteers and maintains a website that receives 40,000 hits per month. Sheriffs are highly important members of the law enforcement community in Florida and tend to have close ties with their communities. Many Sheriff's Offices have

dedicated agriculture crimes units or deputies and many of these participate in the FACIU. The FACIU offers another excellent vehicle for creating an agriculture community policing effort. The FACIU is comprised of the law enforcement members that SART lacks, yet lacks the industry and community outreach that SART excels at.

OALE is already active in the FACIU with all OALE investigators on the membership role. SART is also familiar to the FACIU, having participated in FACIU annual conferences providing training. There is no need to reinvent the wheel or create a new program from scratch in order to achieve the capabilities recommended by NIJ212280. What is needed is to combine the existing capabilities and infrastructure provided by SART, the FACIU and OALE and hopefully incorporate the new capabilities brought about with creation of an OALE intelligence unit and increased agricultural focus in the FFC.

With the research into the Florida assessment completed, analysis identified gaps in Florida's capabilities, and findings and conclusions reached, the final element was reaching recommendations. The recommendations for Florida to take in order to enhance law enforcement's capabilities in defending agriculture against agroterrorism are as follows:

- Create an intelligence and analysis unit within the Office of Agricultural Law Enforcement staffed with food and agriculture sector subject matter experts.
 - Assign a sector SME analyst from this unit to the Florida Fusion Center.
 - Assign a sworn investigator from this unit to the Joint Terrorism Task Force.
 - Unit responsibilities should include active engagement with the State Agriculture Response Team, the Florida Agriculture Crimes Intelligence Unit, and the Regional Domestic Security Task Forces to promote and facilitate interaction with the agriculture community and the exchange of information to identify threats to the food and agriculture sector.
- Enact changes to Florida Department of Agriculture and Consumer Services policies, standard operating procedures, and response plans for animal disease response events to incorporate an intrinsic criminal investigative and uniformed response component provided by the Office of Agricultural Law Enforcement.
- Enact an Office of Agricultural Law Enforcement agroterrorism policy specifying the agencies roles and responsibilities in an agroterrorism event, as well as mandatory training requirements.

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I. INTRODUCTION

A. RESEARCH QUESTION

The purpose of this research is to analyze Florida law enforcement's role in the efforts to defend Florida agriculture from the risk of Agroterrorism, to determine the adequacy of these efforts, and identify any gaps or opportunities for improvement. This research will ask what the existing literature offers on the topic, what is status quo in Florida at this point in time, what is ideal or desired status to be achieved, and finally what needs to be accomplished to get there.

B. PROBLEM STATEMENT

To defend its vital agriculture industry the State of Florida has engaged in many efforts, especially taking steps to protect the most vulnerable aspects of the industry including livestock and the food supply chain. Some of these efforts include the Florida Department of Agriculture and Consumer Services (FDACS) divisions of Animal Industry and Food Safety, and the State Agricultural Response Team (SART). What has been missing in Florida's efforts to protect agriculture is law enforcement's integration into the preparation, defense, and response-planning framework.

The largest single agency entity in Florida's agriculture focused law enforcement community is the law enforcement division of the FDACS – the Office of Agricultural Law Enforcement (OALE), with nearly 250 sworn officers. OALE has no specific mission or focus on agroterrorism and in fact the term Agroterrorism does not appear anywhere in OALE policy.¹ OALE has maintained focus over its statutory and policy defined core mission areas of regulating the movement of cargo and agriculture, enforcing laws pertaining to protection of agriculture and consumers, and supporting the department's regulatory divisions. Local agriculture law enforcement units found in some sheriff's offices are focused on agriculture crimes such as animal and equipment theft.

1. Office of Agricultural Law Enforcement, *Written Directives*, Tallahassee, FL, 2014

The SART team is a well-established, statewide Multi-Agency Coordination (MAC) group coordinated out of FDACS with the purpose of providing for an effective response to agriculture disasters in support of the Division of Animal Industry.² SART is focused on agroterrorism as well as naturally occurring events. The DAI response protocols and SART response teams consist of every other subject matter expert needed to deal with a foreign animal disease outbreak with the exception of a law enforcement member who is experienced in and looking for indications a nefarious act may have occurred.³ If there is no investigative element at the outset of an outbreak the clues or evidence needed to connect the dots may be lost forever.

Intelligence and information sharing is tremendously important to the nation's homeland security as evidenced by the numerous terrorist plots foiled since 9/11. It is also a significant gap in Florida's agroterrorism defense as there is no apparent tie in with intelligence and information sharing with anyone associated with Animal Industry, Food Safety, or SART.

Other gaps exist which intertwine with those previously discussed. There is a lack of agroterrorism training focused on law enforcement's roles and responsibilities. Outreach is needed from the law enforcement community to the agriculture community and industry stakeholders. Pre-incident planning by law enforcement for response to a large-scale agroterrorism event needs to be done to discuss how an expanding incident involving rapidly widening quarantine zones and mass animal eradications would be coped with.

Arguably, Florida is probably ahead of most states in their domestic security planning and preparations. Florida is often the target for significant natural disasters such as major hurricanes and other large-scale events. Florida is heavily invested in pre-event planning, emergency management infrastructure and capabilities, and stored and staged resources. However, gaps exist, especially in the agriculture sector. The opportunity exists to identify those gaps pertaining to law enforcement's role in defense of agriculture

2. Joe Kight (Emergency Support Function-17, FDACS), in discussion with the author, November 6, 2013.

3. Ibid.

and by building upon the networks and resources already in place these gaps could be shrunk with comparatively little increase in budgets or growth of bureaucracy.

C. RESEARCH DESIGN

1. Sample

The research conducted its analysis based on one primary source, the National Institutes of Justice (NIJ) report and applied it to one sample, the agricultural and law enforcement policies in the State of Florida. The 2005 Department of Justice National Institute of Justice report: *Defining Law Enforcement's Role in Protecting American Agriculture from Agroterrorism* addressed the level of engagement and capability where law enforcement should ideally be. The findings of this report serves as the model for law enforcement's agroterrorism capabilities. The State of Florida was selected because it is the author's sponsor agency, the Office of Agricultural Law Enforcement, and thus the most relevant sample to the agency mission priorities.

2. Selection

The NIJ report selection derived from its status as the only academic study on law enforcement's role in agroterrorism. In fact, the literature review found nearly no references to law enforcement and agroterrorism. The NIJ report stands as the authoritative standard on this topic. From the NIJ report the recommendations section was selected to serve as the model for law enforcement's agroterrorism capabilities. The report includes recommendation on federal roles and capabilities, but those are irrelevant to the State of Florida, and are thus outside the scope of this research.

Within the State of Florida, all entities or programs having responsibilities in the defense of or response to agroterrorism, as identified in the NIJ report recommendations, were selected for the thesis sample. Some of these entities or programs do not specifically identify a role in agroterrorism, however research into their responsibilities found alignment with the NIJ findings and recommendations. The Florida selections included the following entities and programs:

- Florida Department of Agriculture and Consumer Services
 - Division of Animal Industry
 - State Agriculture Response Team
 - Division of Food Safety
- Law Enforcement Entities
 - Office of Agricultural Law Enforcement
 - Regional Domestic Security Task Forces
 - Florida Agriculture Crimes Intelligence Unit
 - Florida Fusion Center

3. Limits

The research into the NIJ report is not an evaluative assessment of its results, rather a preparatory step towards using the NIJ framework and findings as an analytical framework for applying to Florida.

4. Data Sources

The data analyzed were pulled largely from primary sources including state statutes, departmental policies, exercise after action reports, and internal reports and records. Here too there is comparatively little information for review. Much of the required information resides only in the institutional knowledge held by subject matter experts. Classified material that may address threats to the agriculture industry or current or prospective programs to address the threat were not relied upon in this thesis.

5. Types of Analysis

A policy analysis method was used to evaluate Florida law enforcement's role in agroterrorism. The findings of the NIJ report were analyzed for their potential application to the State of Florida. Each of the sample elements for the Florida Assessment were then analyzed to determine which, if any, of the elements of the NIJ report are in operation and if so, to what extent.

A multi-goal analytical approach was used to develop recommendations for Florida. There are multiple variables in play, many of which are difficult if not

impossible to quantify. Criteria used to develop recommendations included cost, political ramifications or level of political acceptability required, legal and policy issues, and of course the projected effectiveness. Funding is a critical factor in developing recommendations. The political climate in Florida in recent years has favored cuts rather than growth in government programs. Using existing infrastructures to mitigate new costs was one of the primary factors in developing recommendations. Political ramifications and acceptability is always a factor in state government and can be difficult to quantify. Recommendations were designed to incorporate existing programs and entities in partnerships to enhance capabilities. Recommendations were developed around existing state statutes and department authorities in order to avoid legal and policy obstructions.

6. Output

This thesis reached conclusions regarding Florida's agroterrorism preparedness and response capabilities and developed a series of recommendations for filling gaps in these capabilities. The thesis anticipated gaps would be found in Florida law enforcement's preparedness and response capabilities. Research and analysis found response capabilities were already quite robust, requiring relatively minor policy changes to bridge the gaps and meet the NIJ report recommendations. Gaps in preparedness capabilities were more pronounced. Specifically, significant gaps in intelligence and information sharing were identified and found to impact all aspects of preparedness capabilities. Recommendations to bridge these gaps included creating a new agriculture focused Intelligence and Analysis section to enhance the State's capability. These recommendations, pertaining to both preparedness and response, could all be prescriptively applied to fill these gaps and build a more robust defensive capability.

D. SIGNIFICANCE OF RESEARCH

This research contributes to the greater knowledge base on agroterrorism in general and specifically adds to the discourse concerning law enforcement's role. At the state level this research provides a never-before completed policy review of Florida law enforcement's role in agroterrorism defense and offer recommendations for enhancing this role and filling gaps in the defensive effort. Hopefully, real changes and

enhancements can be accomplished, prescriptively applying some of the recommendations of the thesis.

II. LITERATURE REVIEW

The following literature review considers the topic of agroterrorism or the use of biological weapons against agriculture in support of a thesis addressing Florida law enforcement's role addressing the threat of agroterrorism. This review draws from forty-five sources to develop a survey of the academic findings on agroterrorism in the areas of the history of agro or bio terrorism, the modern day threat, naturally occurring outbreaks, risk, responsibilities, and current issues.

The word *Agroterrorism* is coterminous with the larger study of Homeland Security, first beginning to appear in the literature around 2000. The Federal Bureau of Investigation (FBI) states agroterrorism is a subset of bioterrorism and adopts Jim Monke's definition from the Congressional Research Service (CRS) report *Agroterrorism: Threats and Preparedness*, "the deliberate introduction of an animal or plant disease for the purpose of generating fear, causing economic losses, or undermining social stability."⁴ Dr. Henry Parker in his McNair Paper, *Agricultural Bioterrorism: A Federal Strategy to Meet the Threat* defines this more narrowly as agricultural bioterrorism and then further differentiates between bioterror, biowar, and biocrime.⁵ Bioterror is that perpetrated by non-state actors such as terrorist organizations; biowar would be recognized only during a formally declared war between states, and biocrime would be perpetrated by someone other than terrorists or states and for reasons other than religion or politics, i.e., this would generally be someone seeking financial gain. Parker notes that the consequences of any of these acts are likely to be the same, thus it is simpler to consider these subsets of bioterror and agroterror as the same types of acts of agroterrorism.⁶

4. "Agroterrorism," Federal Bureau of Investigation, accessed August 20, 2013, <http://www.fbi.gov/stats-services/publications/law-enforcement-bulletin/february-2012/agroterrorism>.

Jim Monke, *Agroterrorism: Threats and Preparedness* (Washington, DC: Congressional Research Service, August 13, 2004). <http://fas.org/sgp/crs/terror/RL32521.pdf>.

5. Henry S. Parker, *Agricultural Bioterrorism: A Federal Strategy to Meet the Threat* (Washington, D.C.: Institute for National Defense Studies: National Defense University, 2002), <http://oai.dtic.mil/oai/oai?verb=getRecord&metadataPrefix=html&identifier=ADA409307>.

6. Ibid.

Agriculture and the agribusiness related industries represent 4.8% of the United States Gross Domestic Product and employed over 16 million Americans as of 2011.⁷ During the same year total U.S. farm cash receipts reflected over \$390 billion in sales for crops and livestock.⁸ Agricultural exports play a particularly important role in the U.S. economy with every \$1 billion in exported product supporting 6,800 American jobs.⁹ Export figures from 2012 reflected a banner year with \$141 billion in U.S. agriculture exports.¹⁰ Across these fruited plains lie 2.1 million farms worth \$1.43 trillion.¹¹ These farms are holding approximately 89.3 million cattle, 67.5 million swine, and 5.5 million sheep as of 2013.¹²

Despite agriculture's importance and impact on U.S. prosperity many Americans give agriculture and the food supply little thought. United States Department of Agriculture (USDA) Secretary Tom Vilsack said most Americans give little thought to how food gets to their tables, and "don't quite get what's going on on the farm."¹³ Perhaps this could be attributed to America's easy access to abundant, cheap, quality food. Most Americans live within a few minutes' drive to their choice of grocery stores full of fresh produce and meats. Along with this tremendous bounty on demand, Americans spend on average only 6.4% of their annual income on food, which is the lowest amount in the entire world.¹⁴ It is not uncommon to spend 40 percent to 50

7. "USDA Economic Research Service - FAQs," United States Department of Agriculture Economic Research Service, accessed September 4, 2013, <http://www.ers.usda.gov/faqs.aspx#howimportant>.

8. Amy Klobuchar, *The Economic Contribution of America's Farmers and the Importance of Agricultural Exports* (Washington, D.C.: United States Senate Joint Economic Committee, September 2013), 1, http://www.jec.senate.gov/public/?a=Files.Serve&File_id=266a0bf3-5142-4545-b806-ef9fd78b9c2f.

9. Ibid., 2.

10. Ibid.

11. Terry Knowles et al., *Defining Law Enforcement's Role in Protecting American Agriculture from Agroterrorism* (Washington, DC: National Institute of Justice, June 20, 2005), <https://www.ncjrs.gov/pdffiles1/nij/grants/212280.pdf>.

12. "Foot and Mouth Disease Fast Facts," *CNN*, September 2, 2013, <http://www.cnn.com/2013/09/02/health/foot-and-mouth-disease-fast-facts/index.html>.

13. Joe Itle, "Vilsack: Rural America Needs To Tell Its Story," *Farm Futures*, November 7, 2013, <http://farmfutures.com/story-vilsack-rural-america-needs-tell-0-104447>.

14. *Billions Served*, Washington State University, accessed August 17, 2014, http://wsm.wsu.edu/researcher/WSMaug11_billions.pdf.

percent of annual income on food in other countries.¹⁵ Agriculture is a tremendous contributor to American prosperity and the American way of life. Unfortunately, this vital industry exists every day under the looming threat of terrorism. Indeed the Federal Bureau of Investigation (FBI) has defined agriculture as, “among the most vulnerable and least protected of all potential targets of attack.”¹⁶

A. HISTORY OF AGRO AND BIO TERRORISM

A history of the use of bioterrorism throughout the world is a common component of most agroterrorism research establishing that although it is uncommon and receives comparatively little attention, it has indeed been a tactic employed throughout history for millennia. Over two thousand years ago, the Romans contaminated their enemies' water by dumping rotting corpses into their wells.¹⁷ During the French and Indian Wars the English gave smallpox infested blankets to Indians allied to the French, resulting in a devastating smallpox epidemic among the native population.¹⁸ Germany engaged in a large-scale bioweapons program during World War I involving the infection of military horses and livestock, including swabbing horses and mules with anthrax and glanders as they were shipped to the Allies.¹⁹ World War II saw further use of bioweapons against agriculture targets with Japan's use of rinderpest and anthrax against Russia and Mongolia, as well as Germany's alleged air dropping of beetles into English potato crops.²⁰ The Soviets later experimented with ticks as a vector for transmitting foot-and-mouth disease.²¹ Bioweapons research continued well into the Cold War with nine

15. Ibid.

16. "Agroterrorism," Federal Bureau of Investigation.

17. Parker, *Agricultural Bioterrorism*.

18. Ibid.

19. Steve Cain, “Agroterrorism,” Purdue Extension Backgrounder, Purdue University, September 24, 2001. https://ag.purdue.edu/extension/eden/_layouts/mobile/mWord.aspx?doc=%2Fextension%2Feden%2FTraining%2FAgroterrorism.doc&Source=%2Fextension%2Feden%2F_layouts%2Fmobile%2Fview.aspx%3FList%3D581b0678-60a8-4d96-9f93-b9037991195f%26View%3Ddef917c35-6316-41cd-ac0b-7b73e39789dd%26ViewMode%3DDetail%26CurrentPage%3D1

20. Anne Kohnen, *Responding to the Threat of Agroterrorism: Specific Recommendations for the United States Department of Agriculture* (Belfar Center for Science and International Affairs, October 2000), http://belfercenter.ksg.harvard.edu/files/responding_to_the_threat_of_agroterrorism.pdf.

21. Mark G. Polyak, "The Threat of Agroterrorism-Economics of Bioterrorism," *Georgetown Journal of International Affairs* 5 (2004): 31.

countries having agricultural bioweapons programs including Canada, France, Germany, Iraq, Japan, South Africa, UK, U.S., and USSR.²²

Dr. W. Seth Carus of the National Defense University Center for Counterproliferation Research published his seminal work *Bioterrorism and Biocrimes* in 1998 chronicling in detail the history of the illicit use of biological agents around the world since 1900.²³ Carus' work has been referenced in the majority of academic papers on the topic of agroterrorism. In this paper Carus researched 270 alleged cases of the use of biological agents and documented 180 confirmed cases of illicit use of biological agents since 1990.²⁴ Of the 180 most involved interests, threat, hoax, or the objective was not determined, however in twenty-three cases biological agents were acquired and/or used for criminal purposes and in eight cases biological agents were acquired and/or used by terrorists.²⁵ Carus noted most of the criminal and terrorism related cases occurred after 1990 possibly indicating an increasing interest in bioterror tactics.

Parker delved into a deeper analysis of Carus' research. There were twenty-four confirmed cases of bioterrorism attacks during the one hundred year period averaging one attack every four years.²⁶ Of these confirmed cases fourteen were agriculture related attacks of which eleven involved food poisoning and three involved plants or animals.²⁷ Most authors referencing Dr. Carus' data tend to ignore most of his cases that involve only interest, threat, and hoax. Indeed many authors state that there have only been two actual cases of agroterrorism in recent history and cite the Mau Mau insurgents in Kenya killing cattle with plant toxins and the Rajneeshee cult infecting salad bars with salmonella in Oregon.²⁸ However, this seems to be a somewhat narrow interpretation of

22. Monke, *Agroterrorism: Threats and Preparedness*, 5.

23. W. Seth Carus, "Bioterrorism and Biocrimes: The Illicit Use of Biological Agents since 1900" (Center for Counterproliferation Research: National Defense University, 2001), <http://oai.dtic.mil/oai/oai?verb=getRecord&metadataPrefix=html&identifier=ADA402108>.

24. Ibid.

25. Ibid.

26. Parker, *Agricultural Bioterrorism*, 19.

27. Ibid.

28. Peter Chalk, *Hitting America's Soft Underbelly the Potential Threat of Deliberate Biological Attacks against the U.S. Agricultural and Food Industry* (Santa Monica, CA: Rand Corporation, 2004), <http://search.ebscohost.com/login.aspx?direct=true&scope=site&db=nlebk&db=nlabk&AN=105332>.

agroterror attacks and ignores many other actual incidents such as the Israeli settlers who destroyed 17,000 tons of Palestinian grapes with pesticide and the Arabs who poisoned Israeli oranges with mercury, just to cite two examples.²⁹

Another source commonly cited is the Monterey Institute of International Studies, James Martin Center for Nonproliferation Studies. The MIIS collaborated a great deal with Carus in his research. The MIIS has catalogued twenty-three occurrences of chemical or biological weapon incidents targeting agriculture between 1915 and 2008 of which nineteen are defined as acts of Agroterror.³⁰ Also documented are twelve large-scale cases of targeting the food supply including crops, large-scale being defined as more than thirty casualties and/or greater than \$100 million in lost revenue.³¹

B. THE MODERN THREAT

The 2005 Department of Justice's National Institute of Justice (NIJ) study *Defining Law Enforcement's Role in Protecting American Agriculture From Agroterrorism* identified the categories posing the greatest potential to employ agroterrorism as international terrorists, domestic terrorists, animal rights extremists, and economic opportunists.³² While not falling under the classification of terrorist, disgruntled employees seeking revenge on an employer are also noted as posing a high potential to employ agroterror tactics. The FBI agrees with the NIJ assessment of agroterror threat sources even citing the NIJ report as their source.³³ Ann Kohnen in her seminal work, *Responding to the Threat of Agroterrorism: Specific Recommendations for the United States Department of Agriculture* describes, "a multidimensional threat, involving a wide range of motives and perpetrators, and encompassing a wide range of actions, from single acts of sabotage to strategic wartime programs."³⁴ While Kohnen

29. Monke, *Agroterrorism: Threats and Preparedness*, 5.

30. "Agriculture | Chemical & Biological Weapons | James Martin Center for Nonproliferation Studies (CNS)," (Monterey Institute of International Studies), accessed August 14, 2013, <http://cns.miiis.edu/cbw/agchron.htm>.

31. Ibid.

32. Knowles et al., *Defining Law Enforcement's Role in Protecting American Agriculture from Agroterrorism*.

33. "Agroterrorism," Federal Bureau of Investigation.

34. Kohnen, *Responding to the Threat of Agroterrorism: Specific Recommendations for the United States Department of Agriculture*.

includes nation-states in the threat, most of the literature agrees the threat of agroterrorism comes primarily from sub-state actors, international and domestic terrorists and lone wolf types.

While the history of agro and bioterrorism reveals a myriad of methods, the modern day threat focuses on naturally occurring biological agents from the animal and plant world collected or replicated and used intentionally to cause an outbreak. The World Organisation for Animal Health (formerly known as the Office International des Epizooties) or OIE, an intergovernmental organization working on worldwide animal health issues, maintains a website offering a treasure trove of information on animal diseases.³⁵ The OIE site and data are referenced in numerous agroterrorism papers. Of particular concern are the OIE List A diseases which affect cattle, swine, and poultry. There are fifteen List A diseases including foot-and-mouth Disease (FMD), Bovine Spongiform Encephelopathy (BSE or Mad Cow), Newcastle Disease, and ten more. All but one are viruses, most of which transmit via direct contact though some spread via the air and others are spread by vectors or other organisms capable of transmitting disease such as ticks and mosquitos.³⁶

The 2005 NIJ report states agriculture experts are unanimous that FMD is the most deadly and most likely biological agent in an agroterrorism scenario.³⁷ A review of the literature supports the NIJ assertion with an apparent total agreement among authors that FMD represents the greatest and most likely threat. FMD is a highly contagious viral disease infecting cloven-hoofed animals such as cattle, pigs, and sheep. While the United States has enjoyed FMD-free status since 1929, the disease is endemic in South America, Africa, and Asia and exists in over one hundred countries around the world. The global cost around the world due to FMD varies from \$6.5 to \$21 billion per year depending on outbreaks and production losses.³⁸ FMD has an incubation period of one to twenty-one

35. "Home: OIE - World Organisation for Animal Health," World Organisation for Animal Health, accessed August 14, 2013, <http://www.oie.int/>.

36. Kohnen, *Responding to the Threat of Agroterrorism: Specific Recommendations for the United States Department of Agriculture*.

37. Knowles et al., *Defining Law Enforcement's Role in Protecting American Agriculture from Agroterrorism*.

38. "FootandMouthDiseaseInfo.Org," accessed May 14, 2014, <http://www.fmdinfo.org/>.

days, but generally three to eight days in most cases. The infected animal can excrete the virus for one to ten days before symptoms ever appear. Massive amounts of the virus are excreted and the virus is highly resilient. FMD spreads rapidly via infected animals, wind, milk, meat, animal products, feed, clothing, and equipment.³⁹

FMD is easily transmissible and spreads rapidly in the air. In the 1981 outbreak of FMD in France, the disease travelled and infected animals 175 miles away across the English Channel in three days. The 1997 FMD outbreak in Taiwan destroyed the nation's swine industry with losses of \$15 billion over three years of trade embargoes.⁴⁰ Fifty thousand workers lost their jobs in the first week of the outbreak. Outbreaks in the United Kingdom include 2001, which resulted in destroying 6.2 million animals and economic losses of \$20 billion, and another smaller outbreak in 2007.⁴¹ China and India have been referred to as "rogue nations" by one news article due to having many FMD outbreaks and covering them up rather than participate in worldwide reporting and control standards.⁴²

There are several FMD exercise and training scenarios available that illustrate the ease in which a terrorist could intentionally infect and spread FMD to livestock in an agroterror attack. While the U.S. is currently free of this disease, FMD remains endemic in Africa, Asia, and South America. The disease can be spread as easily as taking a mucus sample from an infected animal, soaking a handkerchief with the mucus, and then either wiping on another animal or just tossing it on the ground in a feedlot. The FBI discusses FMD on their webpage devoted to agroterrorism.⁴³ The FBI notes that FMD is twenty times more contagious than smallpox, is extremely stable, can be spread from animal to animal by air from fifty miles away, and could spread to twenty-five states in

39. Mohamed Abd El Rahman El Bably, Risk Analysis of Foot and Mouth Disease Outbreak in Egypt (Washington, DC: United States Department of Agriculture. Agriculture Research Service.), accessed May 14, 2014, <http://www.ars.usda.gov/GFRA/presentations/Session7/7.2%20EL%20Bably%20resentation%28%20Final%29%29.pdf>.

40. Mark G. Polyak, "The Threat of Agroterrorism-Economics of Bioterrorism."

41. Knowles et al., *Defining Law Enforcement's Role in Protecting American Agriculture from Agroterrorism*.

42. Menaka Sanjay Gandhi, "China, India Rogue Nations," *Pravasi Mathrubhumi*, December 4, 2013, sec. Science, <http://www.mathrubhumi.com/english/columns/china-india-rogue-nations-142035.html>.

43. "Agroterrorism," Federal Bureau of Investigation.

five days. Humans carry the virus in their lungs and can then transmit it to animals they come into contact with for forty-eight hours. According to the FBI foot and mouth disease is an “ominous threat” to the United States.⁴⁴

Bill White, Director of the Plum Island Foreign Animal Disease Diagnostic Laboratory, speaking to the Missouri Livestock Symposium stated, “Foot-and-mouth disease is the most-important disease to worry about here in the United States,” and noted FMD can spread across forty states within two weeks.⁴⁵ The potential economic damage resulting from an FMD outbreak is almost unthinkable. One economist estimates a loss of \$750,000 to \$1 million per operating hour that the U.S. beef industry is halted due to a nationwide FMD outbreak; with total estimated losses of up to \$60 billion by the time the outbreak is squashed.⁴⁶ The United States Department of Agriculture (USDA) publication “Overview of FMD Vaccine Issues” notes the total economic impact of an outbreak over the long term is estimated at \$12.8 billion per year for ten years with a total price tag of \$128 billion.⁴⁷

An agroterror attack against crops is generally considered less likely than one targeting animals for reasons having to do with characteristics of plant specific biological agents. Plant pathogens are highly sensitive to temperature, humidity, and sunlight, they do not travel far or fast through the air, and they would be more difficult for a potential terrorist to produce and effectively disperse.⁴⁸ However, crop attacks have indeed occurred throughout history and could be attempted again. Kohnen’s paper is one of the few papers to dedicate a significant portion to crop diseases and use of bioweapons to attack crops.⁴⁹ A few authors gloss over the crop aspect, but most do not address the

44. Ibid.

45. Mindy Ward, “FMD Greatest Threat to Livestock Industry,” *Missouri Farmer Today*, December 16, 2010, http://www.missourifarmertoday.com/news/fmd-greatest-threat-to-livestock-industry/article_b3ba75ef-7944-50aa-afb7-b1ff2ad27661.html.

46. Knowles et al., *Defining Law Enforcement’s Role in Protecting American Agriculture from Agroterrorism*.

47. United States Department of Agriculture, *Foot - and - Mouth Disease (FMD) Response Ready Reference Guide — Overview of FMD Vaccine Issues* (Washington, DC, August 2013), http://www.aphis.usda.gov/animal_health/emergency_management/downloads/fmd_plan_rrg_vaccine.pdf.

48. Kohnen, *Responding to the Threat of Agroterrorism: Specific Recommendations for the United States Department of Agriculture*.

49. Ibid.

topic at all, instead focusing on animal pathogens and specifically on FMD. Kohnen discusses Iraq's bioweapons program of the 1980s and 90s at which time they were developing fungi diseases, including rusts, blasts, and smuts, which would affect cereal crops such as wheat.⁵⁰

C. NATURALLY OCCURRING OUTBREAKS AND DISASTERS

The nature of agricultural disasters, whether naturally occurring or intentional, makes the threat dynamic different from any other potential target or potential terror tactic. This thesis focuses on the intentional, manmade act of agroterrorism and does not delve into naturally occurring agriculture disasters. However, agricultural bio-disasters would behave the same way, whether natural or intentional, because the biological agents causing the outbreak are themselves the same. Cain points out that there is no data to prove that natural outbreaks vs. terrorism would be comparable, however, he asserts if anything the agroterrorism event would be worse.⁵¹ Homeland Security Director of Food, Agriculture, and Water Security Floyd Horn noted, "Naturally occurring outbreaks of diseases signal the devastation that could result from a carefully choreographed intentional release.... recent epidemics aptly demonstrate the vulnerability of living targets to biological pathogens and the economic chaos that can result from an outbreak—intentional or otherwise."⁵² There are no naturally occurring bombings or aircraft hijackings, thus the only data available to study on most any other aspect of terrorism comes from actual terrorism events. On the other hand, agriculture bio-events occur all the time. Naturally occurring diseases cost U.S. agriculture producers about \$17.5 billion for livestock disease and \$30 billion for crop disease every year.⁵³

Mass sickening, deaths, and economic damage from contaminations in the food supply chain occur with some frequency. In 1989 Mexican cantaloupes infected with

50. Ibid., 8.

51. Cain, "Agroterrorism," 1.

52. Parker, *Agricultural Bioterrorism*, vi.

53. R.M. Goodrich et al., "Agroterrorism in the U.S.: An Overview" (University of Florida IFAS, October 2005), 1.

salmonella sickened 25,000 in the U.S.⁵⁴ Fourteen hundred Americans were sickened with salmonella in April 2008 by what was first blamed on Florida tomatoes and was later traced back to Mexican peppers.⁵⁵ The infamous peanut butter salmonella outbreak in 2008 and 2009 was one of largest outbreaks in history, with hundreds becoming sick all around the U.S. and nine deaths resulting.⁵⁶ Indeed there is nothing exotic about food poisoning. Taken from their website cdc.gov the Centers for Disease Control, “estimates that each year roughly one in six Americans (or 48 million people) get sick, 128,000 are hospitalized, and 3,000 die of foodborne diseases.”⁵⁷

Biological disease outbreaks in crops are not uncommon. In 1970 an outbreak of Leaf Blight in U.S. corn caused \$1 billion in damage.⁵⁸ In 1990 Karnal Blunt was found in U.S. wheat stopping exports. Damage caused by these outbreaks today could top \$100 billion.⁵⁹ USDA estimates peg damages at \$1.5 billion per year if the Mediterranean fruit fly (Medfly) became established in the U.S.⁶⁰ Florida has experienced periodic Medfly outbreaks since the 1920s the most recent in 1998 and again in 2010.⁶¹ Florida battled citrus canker for decades with costs totaling nearly \$1 billion before determining it could not be eradicated. Interestingly, MIIS notes that in 1996 a claim was made speculating that recent citrus canker outbreaks were intentionally introduced by Cuba.⁶²

54. Regina Birner et al., “Security Analysis for Agroterrorism: Applying the Threat, Vulnerability, Consequence Framework to Developing Countries,” (International Food Policy Research Institute, accessed August 21, 2013). <http://www.ifpri.org/publication/security-analysis-agroterrorism?print>.

55. Stephen Thompson, *Tomato Growers Take Big Hit In Food Scare* (Washington, DC: United States Department of Agriculture. Rural Development), accessed August 14, 2013, <http://www.rurdev.usda.gov/rbs/pub/sep08/feeling.htm>.

56. Brent Kendall and Devlin Barrett, “Four Accused of Salmonella Coverup,” *The Wall Street Journal*, February 21, 2013, <http://online.wsj.com/news/articles/SB10001424127887324503204578318024027438166>.

57. “CDC - Estimates of Foodborne Illness in the United States,” Centers for Disease Control, accessed November 24, 2013, <http://www.cdc.gov/foodborneburden/>.

58. Cain, “Agroterrorism.”

59. Ibid.

60. Kohnen, “Responding to the Threat of Agroterrorism: Specific Recommendations for the United States Department of Agriculture,” 20.

61. J. B. Heppner and M. C. Thomas, “Mediterranean Fruit Fly, *Ceratitis Capitata* (Wiedemann) (Insecta: Diptera: Tephritidae),” University of Florida IFAS, June 26, 2013, <http://edis.ifas.ufl.edu/in371>.

62. “Agriculture | Chemical & Biological Weapons | James Martin Center for Nonproliferation Studies (CNS),” Monterrey Institute for International Studies.

Animal disease outbreaks can be some of the most economically devastating of all agriculture disasters. In 2003 a single cow in Washington State was found infected with bovine spongiform encephalopathy (BSE), also called “mad cow.” When the U.S. announced the discovery, thirty major importers, including Canada, Mexico, Japan, and Korea, immediately suspended shipments. Total estimated losses for beef exports to those countries in 2004 were estimated at \$3.2 billion to \$4.7 billion.⁶³ Several FMD outbreaks around the world including, Taiwan and the United Kingdom have already been discussed.

The U.S. has been FMD free since 1929, but the potential threat of the disease has prompted continued research and preparation for the possibility of an outbreak. The map in Figure 1 depicts a Multiscale Epidemiological/Economic Simulation and Analysis conducted by the Lawrence Livermore National Laboratory to model how a single infection of FMD in the Midwest, whether naturally occurring or intentional, could spread over a period of fifty days (as taken from Science and Technology Review).⁶⁴

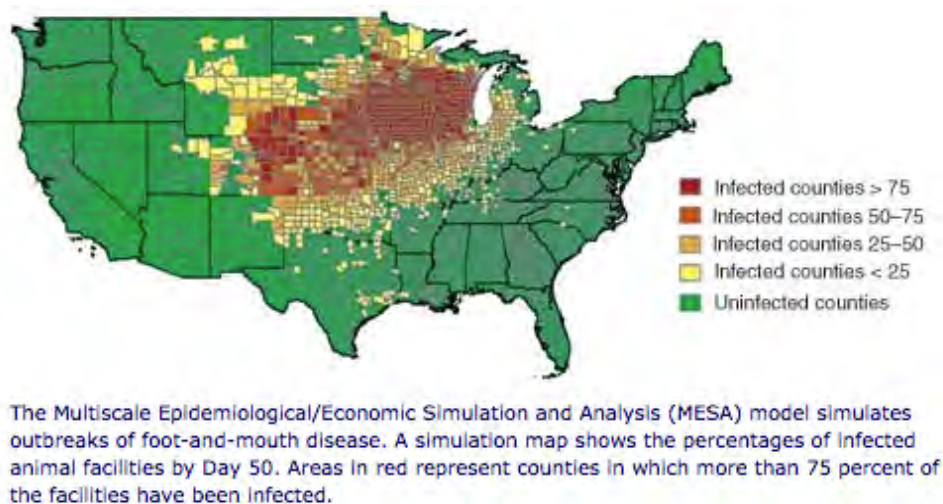


Figure 1. FMD Outbreak Model⁶⁵

63. Charles E. Hanrahan and Geoffrey S. Becker, *Mad Cow Disease and U.S. Beef Trade* (Washington, DC: Congressional Research Service, 2006), 6, <http://oai.dtic.mil/oai/oai?verb=getRecord&metadataPrefix=html&identifier=ADA460674>.

64. Gabriele Rennie, “Assessing the Threat of Biological Terrorism,” *Science and Technology Review*, accessed August 17, 2014, <https://www.llnl.gov/str/Sep07/Bates.html>.

65. Ibid.

An outbreak such as the one depicted on this model would cost untold billions, if not hundreds of billions, in direct eradication costs as well as indirect economic losses. United States cash receipts for livestock and related products alone account for over \$170 billion per year.⁶⁶

D. RISK = THREAT x VULNERABILITY x CONSEQUENCE

Discussion of risk is a common component in agroterrorism papers, probably because of the rarity of this type of attack and the need to establish the gravity of the threat. In fact, agroterrorism is often referred to in the literature as “low probability – high consequence”⁶⁷ due to the nature of being a rare event yet when and if it does occur there are dire consequences. However, as former Secretary of Health and Human Services Tommy Thompson said, “I for the life of me cannot understand why the terrorists have not, you know, attacked our food supply, because it’s so easy to do.”⁶⁸ Similarly, U.S. Senator Susan Collins (R-ME) noted, “In the war on terrorism, the fields and pastures of America’s farmland might seem at first to have nothing in common with the towers of the World Trade Center or busy seaports. In fact, however, they are merely different manifestations of the same high priority target, the American economy.”⁶⁹

Not everyone writing on agroterrorism agrees with these threat assessments. Professor of Food Science at the University of Tennessee Dr. Jean Wesse downplayed the possibility of an agroterrorism attack saying the food chain is vulnerable but lacks appeal to terrorists.⁷⁰ Doug Archer with the University of Florida Institute of Food and Agricultural Sciences says agroterrorism is not something the public should worry about, as it is very difficult to introduce harmful substances into the food supply.⁷¹ When asked

66. Klobuchar, *The Economic Contribution of America’s Farmers and the Importance of Agricultural Exports*, 2.

67. Birner, “Security Analysis for Agroterrorism,” 13

68. Richard Byrne, “Agroterrorism and Biosecurity, Threat, Response, and Industry Communication” (Scholarship Paper, Harper Adams University College, 2007), 5. http://www.nuffieldinternational.org/rep_pdf/12565895572007_Richard_Byrne_Nuffield_Report.pdf.

69. Knowles et al., *Defining Law Enforcement’s Role in Protecting American Agriculture from Agroterrorism*, 95.

70. Barry Neild, “CNN.com - Agroterrorism: How Real Is the Threat? - Sep 25, 2006,” *CNN.com* (September 25, 2006), zotero://attachment/394/.

71. “Agro-Terrorism: From the Farm to the Fork,” *WCJB-TV 20 ABC News* (February 19, 2013), zotero://attachment/444/.

about agroterrorism for a news interview, FBI Agent John Frank of the Mobile, AL field office stated the, “food sector not likely target for terrorists.”⁷²

The risk to human life in Agroterrorism comes primarily from food chain contaminations and some risk from animal disease outbreaks. Zoonotic diseases are those animal diseases that are transmissible and harmful to humans. During an outbreak of highly pathogenic avian influenza in Hong Kong in 1997 six people died.⁷³ Infectious diseases are now the third leading cause of death in the U.S. and 75 percent of emerging human pathogens are zoonotic,⁷⁴ raising serious concerns during outbreaks such as Nipah virus in Malaysia and West Nile in New York. In his Rand report *Hitting America’s Soft Underbelly*, Peter Chalk notes, “The food chain offers a low-tech mechanism that is nevertheless conducive to disseminating toxins and bacteria.”⁷⁵ The increased number of entry points into the food supply chain, along with the general lack of security and surveillance at processing plants, lead to the ease with which an attack on the food supply could be launched.

The greatest risk resulting from an agroterrorism attack is the economic damage. Parker notes, “even the threat of attack could jeopardize consumer confidence, disrupt commodity markets, and wreak economic havoc.”⁷⁶ Kohnen points out that crop diseases do not pose a threat to human life, but as documented previously pose enormous economic liability due to failed harvests.⁷⁷ In Florida crops are enormously important to the state economy as evidenced by facts and figures taken from the Florida Department of Agriculture and Consumer Services (FDACS) *2012 Florida Agricultural Statistical*

72. Robert Lee, “Agroterrorism a Concern but Not Reason to Panic,” *The Plainsman*, accessed August 14, 2013, http://www.theplainsman.com/view/full_story/18205479/article-Agroterrorism-a-concern--but-not-reason-to-panic?instance=home_news_lead_story.

73. Kohnen, “Responding to the Threat of Agroterrorism: Specific Recommendations for the United States Department of Agriculture,” 20.

74. James Jay Carafano, “Improving Federal Response to Catastrophic Bioterrorist Attacks: The Next Steps,” *The Heritage Foundation*, accessed August 19, 2013, <http://www.heritage.org/research/reports/2003/11/improving-federal-response-to-catastrophic-bioterrorist-attacks-the-next-steps>.

75. Chalk, *Hitting America’s Soft Underbelly the Potential Threat of Deliberate Biological Attacks against the U.S. Agricultural and Food Industry*, x.

76. Parker, *Agricultural Bioterrorism*, Introduction.

77. Kohnen, “Responding to the Threat of Agroterrorism: Specific Recommendations for the United States Department of Agriculture,” 17.

Directory.⁷⁸ Florida's farm industry alone includes 47,500 farms, spread across 9 million acres, growing 300 different crops.⁷⁹ Florida expends considerable effort on preventing the introduction of plant pests and diseases, as the state has experienced its share of crop disasters over the years including citrus canker, citrus greening, and Medfly outbreaks, among others.

E. RESPONSIBILITIES

America's defensive posture towards the threat of agroterrorism has evolved and strengthened since the attacks of September 11. The year 2002 brought the Homeland Security Act creating the Department of Homeland Security and Customs and Border Protection bringing enhancements to agricultural border inspections. The same year the Public Health Safety Bioterrorism Preparedness and Response Act strengthened control over biological agents and addressed safety and security in the food supply chain.⁸⁰ Food and agriculture were recognized and added to the nations' critical infrastructure roll in 2003 by Homeland Security Presidential Directive 7 (HSPD-7).⁸¹ The following year HSPD-9 (Defending Food and Agriculture) required DHS, USDA, HHS, EPA, AG and CIA to coordinate in preparing, protecting, and responding to the threat of agroterrorism.⁸² The 2007 Agriculture and Food Protection Sector Specific Plan annex to the National Infrastructure Protection Plan is the USDA and sector partners plan for prioritizing infrastructure in the agriculture sector and applying a risk assessment methodology (CARVER + Shock) to determine the criticality of assets, systems, networks, and functions in food and agriculture.⁸³

78. "Overview of Florida Agriculture - Florida Department of Agriculture and Consumer Services," Florida Department of Agriculture and Consumer Services, accessed August 19, 2013, <http://www.florida-agriculture.com/consumers/crops/agoverview/>.

79. *Ibid.*, 2.

80. *Public Health Security and Bioterrorism Preparedness and Response Act of 2002*, PL107-188, accessed August 21, 2014, <http://www.gpo.gov/fdsys/pkg/PLAW-107publ188/html/PLAW-107publ188.htm>.

81. *Homeland Security Presidential Directive 7: Critical Infrastructure Identification, Prioritization, and Protection* (United States, Office of the Federal Register, December 17, 2003), <http://www.gpoaccess.gov/wcomp/index.html>.

82. *Homeland Security Presidential Directive 9: Defense of United States Agriculture and Food* (United States, Office of the Federal Register, January 20, 2004), <http://www.gpoaccess.gov/wcomp/index.html>.

83. United States Department of Agriculture, *Agriculture and Food: Critical Infrastructure and Key Resources Sector-Specific Plan as Input to the National Infrastructure Protection Plan* (Washington, DC, May 2007).

Federal responsibilities for the protection of the food and agriculture sectors are divided between the United States Department of Agriculture (USDA) and the Department of Health. The USDA Animal and Plant Health Inspection Service (APHIS) have primary federal prevention and response responsibility for all aspects of animal and plant disasters or outbreaks.⁸⁴ Under APHIS the Veterinary Services division is responsible for animals and the farming industry, while the Plant Protection and Quarantine (PPQ) division works to protect crops and plants from the spread of pests and diseases, especially those of international origin.⁸⁵ USDA PPQ had significant presence at U.S. border points enforcing plant protection regulations until 2003 with the creation of Customs and Border Protection (CBP) and their assumption of these enforcement duties.⁸⁶ CBP is now America's first line of defense in preventing international based agroterrorism and naturally occurring diseases from entering the US. Federal responsibility for the food supply is shared between the USDA Food Safety and Inspection Service (FSIS), which regulates meat and poultry, and the Food and Drug Administration of the Department of Health, which oversees all other food products.⁸⁷

State responsibilities will vary depending on the state, however the typical state model bears significant similarities to the federal roles. In Florida, animal and plant agriculture protection is relegated by statute to FDACS by Chapter 570 of the Florida State Statutes.⁸⁸ Food regulation is split between FDACS, Florida Department of Business and Professional Regulation, and the Florida Department of Health. FDACS is one of the only of its kind to have a law enforcement division, the Office of Agricultural Law Enforcement, whose mission is to protect Florida's agriculture and its consumers through professional law enforcement.⁸⁹

84. Parker, *Agricultural Bioterrorism*.

85. *Ibid.*

86. Customs and Border Protection, "CBP Agrodefense," *Frontline: Customs and Border Protection* 2, no. 1 (Fall/Winter 2008).

87. Parker, *Agricultural Bioterrorism*.

88. "Department of Agriculture and Consumer Services," F.S.S. Ch. 570 (2013), http://www.leg.state.fl.us/statutes/index.cfm?App_mode=Display_Statute&URL=0500-0599/0570/0570.html.

89. Office of Agricultural Law Enforcement, *Written Directives*.

Response to an agroterrorism event would involve federal, state, and local functions. From the Department of Homeland Security (DHS) would come Disaster Medical Assistance Teams and Veterinary Medical Assistance Teams, as well as all the resources of the Federal Emergency Management Agency (FEMA), which has federal responsibility for coordinating response to any terror attack or major disaster.⁹⁰ DHS also owns the Plum Island Animal Disease Center where any pathogens would go for testing. USDA APHIS and FSIS also have their own procedures and specialty teams for investigating and responding to these events. The USDA has an extensive FMD control strategy written into a 241 page document entitled the “Foot-And-Mouth Disease Response Plan” or The Red Book.⁹¹ This comprehensive strategy covers all aspects of preparing for, responding to, and eradicating FMD including a pre-outbreak strategy, movement control and zoning in the event of an outbreak, traceability, and a vaccination policy.

A law enforcement response to an agroterrorism event would involve partnerships with several entities. The FBI has mandated federal lead role responsibility for all domestic terrorism events as per the 1995 Presidential Decision Directive (PPD) 39 *U.S. Policy on Counterterrorism*.⁹² The USDA Office of Inspector General and FDA Office of Criminal Investigations are also federal law enforcement entities with responsibilities for investigating threatened or actual criminal acts against food and agriculture.⁹³

The literature seems to be in general agreement that the most important segment of responsibility lies in the private domain with the agribusiness sector. Parker notes, “the private sector will ultimately be responsible for developing and implementing biosecurity measures to protect farms and agribusiness interests from acts of terrorism or to remediate the effects of terrorism if it should occur.”⁹⁴ Many of Kohnen’s

90. Carafano, “Improving Federal Response to Catastrophic Bioterrorist Attacks.”

91. United States Department of Agriculture, *Foot - and Mouth Disease Response Plan. The Red Book* (Washington, DC, November 2010), http://www.aphis.usda.gov/animal_health/acah/downloads/documents/FMD_Response_Plan_November_2010_FINAL.pdf.

92. Presidential Policy Directive 39. U.S. Policy On Counterterrorism. Washington, DC (1995). <https://www.hsdl.org/?view&did=462942>.

93. Parker, *Agricultural Bioterrorism*, 42.

94. *Ibid.*, 44.

recommendations revolve around the need for USDA to engage with farmers and industry stakeholders to improve education and biosecurity standards.⁹⁵ Chalk echoes with similar findings.⁹⁶ In her thesis, *Perceptions of Florida Beef Cattle Producers on Preparedness for an Agroterror Attack*, Jodi Degraw addresses the great role animal industry stakeholders play in agroterrorism defense and researched their knowledge on the issue and any steps taken in biosecurity.⁹⁷ Degraw concluded that increased biosecurity safety practices were needed, as well as increased information and educational outreach.⁹⁸

F. ISSUES IN AGROTERRORISM

Most every author researching and writing about agroterrorism picks some aspect on the topic to research, analyze, and formulate recommendations in hopes of improving the homeland security defensive network and add to the knowledge base. Kohnen wrote urging USDA to increase animal disease vaccination supplies, provide the farmers with biosecurity training, and enhance and increase its disease detection and surveillance capabilities.⁹⁹ Chalk makes recommendations for needs analysis, increasing the number of Foreign Animal Disease (FAD) trained veterinarians, law enforcement and intelligence issues, and disease reporting and surveillance enhancements.¹⁰⁰ Parker made many of the same recommendations as Kohnen and also emphasized cross agency collaboration. Parker, borrowing from Kohnen and Chalk, reinforces many of their recommendations and stresses the need for a threat and risk assessment for agricultural bioterrorism to facilitate a properly focused national strategy.¹⁰¹ Mark Polyak in his paper *The Threat of*

95. Kohnen, "Responding to the Threat of Agroterrorism: Specific Recommendations for the United States Department of Agriculture."

96. Chalk, *Hitting America's Soft Underbelly the Potential Threat of Deliberate Biological Attacks against the U.S. Agricultural and Food Industry*.

97. Jodi Lynn DeGraw, "Perceptions of Florida Beef Cattle Producers on Preparedness for An Agroterrorism Attack" (Masters thesis, University of Florida, 2005), http://etd.fcla.edu/UF/UFE0011863/degrow_j.pdf.

98. Ibid.

99. Kohnen, "Responding to the Threat of Agroterrorism: Specific Recommendations for the United States Department of Agriculture."

100. Chalk, *Hitting America's Soft Underbelly the Potential Threat of Deliberate Biological Attacks against the U.S. Agricultural and Food Industry*.

101. Parker, *Agricultural Bioterrorism*.

Agroterrorism: Economics of Bioterrorism comes to similar conclusions focusing most of his recommendations on animal disease research, surveillance, detection, modeling, and funding.

James Carafano writing for the Heritage Foundation describes the current federal approach to a biotoxin attack as “totally inadequate” and outlines his plan for developing a national response system of reduced bottlenecks, increased surge capacity, and the capability of quickly moving assistance into local communities.¹⁰² One of his recommendations was the creation of a DHS Assistant Secretary for Bioterrorism and Infectious Disease Response.¹⁰³ In her Naval Postgraduate School Center for Homeland Defense and Security thesis Ellen Gordon issued a, “call to action for state government officials to demonstrate leadership by aggressively pursuing the development of interstate collaboration for homeland security, in agro-terrorism and beyond” and made the case for multi-state compacts focusing on food security.¹⁰⁴

Interestingly, very little is written in the literature regarding law enforcement’s role in agroterrorism. Among his recommendations, Chalk urges a focus of attention on law enforcement and forensic investigations for determining whether disease outbreaks are deliberate or naturally occurring.¹⁰⁵ This is an acknowledgement of the similarity between naturally occurring agricultural disease outbreaks versus an intentional event. Without a law enforcement investigation to determine otherwise, and if no one takes credit for an event, the assumption is automatic that it was naturally occurring. Monke makes a small reference to building a climate of information sharing between law enforcement and intelligence agencies that collect information and USDA, DHS, and others in the intelligence community to ensure agriculture is given its proper focus.¹⁰⁶

102. Carafano, “Improving Federal Response to Catastrophic Bioterrorist Attacks.”

103. Ibid.

104. Ellen Gordon, “MULTI-STATE INITIATIVES---AGRICULTURE SECURITY PREPAREDNESS” (Masters thesis, Naval Postgraduate School, 2004).

105. Peter Chalk, *Agroterrorism: What Is the Threat and What Can Be Done About It?* (Santa Monica, CA, Rand Corporation, 2004.), accessed August 20, 2013, http://www.rand.org/pubs/research_briefs/RB7565/index1.html.

106. Monke, *Agroterrorism: Threats and Preparedness*.

The only other known reference in agroterrorism research regarding law enforcement's role is the 2005 NIJ report, which is the seminal work on this topic in the literature.

In 2003 the Department of Justice's National Institute of Justice commissioned a panel of experts and stakeholders from law enforcement, agriculture, animal health, and academia to conduct a twenty-one month study with the objective as stated in the title of the 2005 report: *Defining Law Enforcement's Role in Protecting American Agriculture from Agroterrorism*. The NIJ commission established baseline data by surveying Kansas sheriffs and livestock industry stakeholders about agro and bio terrorism and studying the complexities of agro-movement. Recommendations were made for sweeping policy changes and new collaborative programs, which were enacted in Kansas. These included law enforcement intelligence networks which included specific focus areas on agriculture, agriculture event response teams comprised of animal health experts and criminal investigators, forensic evidence procedures for animal events, interaction with the community and industry through the Agroguard program, collaboration with USDA via their Smuggled Food Interdiction Teams, and new agroterrorism training initiatives for law enforcement, animal health professionals, livestock industry stakeholders, and the community.¹⁰⁷

107. Knowles et al., *Defining Law Enforcement's Role in Protecting American Agriculture from Agroterrorism*.

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III. THE NIJ REPORT

In 2003 the United States Department of Justice National Institutes of Justice (NIJ) sponsored a twenty-one month study into law enforcement's role in defending against the threat of agroterrorism.¹⁰⁸ A team of experts was brought together to spearhead and author this study with a goal from the outset of stressing the need for a strong partnership between the law enforcement and livestock fields. These experts were assembled from professions as varied as law enforcement, agriculture, animal health, academic research, and criminal justice education.

A. OVERVIEW

The experts who would go on to author this NIJ study included: Terry Knowles, Deputy Director, Kansas Bureau of Investigation; James Lane, Undersheriff, Ford County Sheriff's Office; Dr. Gary Bayens, Chair, Criminal Justice Department, Washburn University; Dr. Nevil Speer, Associate Professor, Department of Agriculture, Western Kentucky University; Dr. Jerry Jaax, Research Provost, College of Veterinary Medicine, Kansas State University; Dr. David Carter, Professor, School of Criminal Justice, Michigan State University; Dr. Andra Bannister, Director, Regional Community Policing Training Institute, Wichita State University; and with Dr. Sandra L Woerle, assigned by the NIJ as the study Research Project Manager.¹⁰⁹

The final 188-page report was finished on June 20, 2005, delivered to the NIJ in December, 2005, identified as NIJ document number 212280, and titled *Defining Law Enforcement's Role in Protecting American Agriculture from Agroterrorism*. (NIJ212280).¹¹⁰ NIJ212280 was conducted with the purpose, as stated in the Research Project: Goals and Objectives section, of accomplishing the following objectives:

108. Knowles et al., *Defining Law Enforcement's Role in Protecting American Agriculture from Agroterrorism*.

109. Ibid.

110. Ibid.

1. Identify bioterrorism vulnerabilities of America's livestock industry.
2. Identify proactive measures by law enforcement needed to help protect the nation's livestock industry from Agroterrorism.
3. Identify the emergency response procedures and resources required by law enforcement to respond to an act of Agroterrorism.
4. Develop a standardized training module for law enforcement agencies interested in addressing Agroterrorism.¹¹¹

Research methodology used included focus group sessions, field surveys and interviews, two full-scale exercises, and analysis of the results from programs enacted in Kansas on a trial basis for the purposes of this study.¹¹²

B. RESEARCH

Focus groups were used to solicit input from industry members and stakeholders including law enforcement, government officials, livestock producers and ranchers, meat packers and processors, transportation industry, feedlot managers, and animal health professionals.¹¹³ The group discussed agroterrorism vulnerabilities, prevention strategies, response issues, and training. The focus group discussions were wide-ranging and open-ended, collecting that first mass of data for the study and providing direction in crafting the surveys.

Surveys were sent to each of the 105 sheriffs in the State of Kansas with an 81 percent return rate.¹¹⁴ The twenty-five question Likert-scale surveys requested basic agency demographic information and then twenty-two questions relating to the agency's posture towards agroterrorism. Most of the sheriffs departments were not familiar with the state's FAD response plan, most did not have a plan for instituting quarantines or movement controls, most did not have a policy for responding to a biological or weapons of mass destruction (WMD) event, and only about half had received any WMD response training.¹¹⁵

111. *Ibid.*, 25.

112. *Ibid.*

113. *Ibid.*, iv.

114. *Ibid.*, 54.

115. *Ibid.*, 58–69.

Surveys were also sent to members of livestock associations in Kansas, Oklahoma, and Texas. Of the 400 fifteen-question surveys mailed 129, or 33 percent, were returned.¹¹⁶ The majority of the respondents were not concerned with vulnerability or security at their site or facility and were not engaged in agroterrorism prevention or training.¹¹⁷ The focus group session results and the survey questionnaires results fed into the exercise development, programs and initiatives enacted, and the study conclusions reached by the authors.

From the focus group session, the authors identified a list of law enforcement's duties and responsibilities in the event of an agroterrorism initiated foreign animal disease event and itemized them under the two categories of prevention and emergency response. Figure 2 summarizes these responsibilities.

Prevention:

- Identify threats to the local agricultural industry;
- Conduct vulnerability assessment of potential local agricultural targets;
- Develop new partnerships with health officials and industry personnel;
- Establish an awareness and criminal intelligence database;
- Develop a community policing strategy for the local livestock industry.

Emergency Response:

- Implement local response plan (National Incident Management System {NIMS});
- Crime scene management:
 - o tissue collection from infected animals;
 - o evidence collection from the affected premise; and
 - o suspect development.
- Enforce the quarantine plan ordered by the Livestock Commissioner;
- Enforce the stop movement order by restricting movement of all related livestock vehicles;
- Conduct a full-scale criminal investigation to identify/apprehend/prosecute suspects;
- Conflict resolution, e.g., civil unrest, breakdown of basic services, emotional stress, and impact of public health issues.

Figure 2. NIJ Report Law Enforcement Responsibilities¹¹⁸

¹¹⁶ Ibid., 73.

¹¹⁷ Ibid., 73–82.

¹¹⁸ Ibid., 3.

Identifying these duties and responsibilities was key to developing effective exercises for further data collection, as well as aiding in the identification of existing gaps, ultimately leading to the programs and initiatives later developed.

1. Simulation Exercises

Two full-scale simulation exercises, *Sudden Impact* and *Endangered Species*, were developed and conducted for NIJ212280. The exercises were crafted with an eye to law enforcement's two primary categories of duties and responsibilities in agroterrorism: response and prevention. *Sudden Impact* was designed to test the Kansas foreign animal disease (FAD) response plan; specifically seeking to identify issues arising from a FAD outbreak including quarantine effectiveness, inter-agency issues, and interactions between the EOC and response agencies.¹¹⁹ The scenario involved an act of agroterrorism via intentional introduction of Vesicular Stomatitis (VSV). Findings and recommendations from *Sudden Impact* that directly contributed to NIJ212280 included recommending establishing a criminal intelligence database specifically focused on agroterrorism threats and establishing Regional Response Teams comprised of both animal health professionals and criminal investigators for responding to FAD outbreaks.¹²⁰

Endangered Species, building on the findings from *Sudden Impact*, tested law enforcement's agroterrorism prevention capabilities. This exercise focused primarily on intelligence capabilities for identifying and acting on a threat to agriculture, measuring this response, and identifying any intelligence related deficiencies. The scenario generated suspicious activity reports linked to a suspect intending to perpetrate an agroterrorism FAD attack at the state fair. Key findings and recommendations resulting from *Endangered Species* that directly contributed to NIJ212280 included recommending improving communication and information sharing between the agriculture community and law enforcement, clarifying law enforcement's role in preventing agroterrorism, and

119. Ibid., 84.

120. Ibid., 86.

increasing law enforcement's agroterrorism intelligence activities including use of intelligence databases and development of intelligence sources.¹²¹

C. PROGRAMS AND INITIATIVES

In the course of that study the authors implemented several new programs and initiatives in the State of Kansas based on the findings and recommendations resulting from their research and designed to enhance agroterrorism defense. These included the Regional Response Teams (RRT), the Agro-Guard Community Policing program, Smuggled-Food Interdiction Teams (SFIT) program, and initiatives for agroterrorism training for law enforcement and the agriculture industry.¹²²

1. Training

At the time of the study, there was a dearth of existing agroterrorism training available to law enforcement, so the authors resolved to design their own. Training needs were identified as needing to be targeted to audience. For law enforcement, patrol officers needed a more general level of agroterrorism awareness and vigilance-focused training, while investigators needed more detailed training on indicators of agroterrorism. The agriculture community needed general awareness training, as well as information on prevention.¹²³

The training module outline was included in the NIJ21228 Appendix and included sections on agriculture industry overview, vulnerabilities and threats, WMD agents, planning and prevention.¹²⁴ Subsections specific to law enforcement's duties and responsibilities in an agroterrorism event included response related topics on the National Incident Management System (NIMS), the Incident Command System (ICS), evidence, crime scenes, and quarantines, as well as prevention-related topics including agroterrorism indicators, intelligence, and Agro-Guard.

121. Ibid., 86–88.

122. Ibid., 131–150.

123. Ibid., 142–150.

124. Ibid., 186–187.

2. Regional Response Teams

The authors of NIJ212280 identified two basic questions to be answered in the handling of an animal related agroterrorism event. Would veterinarians be capable of meeting evidentiary standards in their handling of the various samples and materials encountered in their response to the event, and would law enforcement officers be capable of adapting their duties and responsibilities in the midst of the disease outbreak? These questions were addressed with the RRT concept. In the State of Kansas, seven regional teams were designated around the state, each one including a government field veterinarian and a certified law enforcement investigator from either the state investigative bureau or the Federal Bureau of Investigation (FBI).

The purpose of the RRT was to enable FAD event response efforts to simultaneously focus on both the disease outbreak issues, as well as evidentiary and crime-scene issues. The authors noted merely forming these teams was not enough, stating, “the key to making the response successful is full integration of the teams, a task that can be accomplished through training, field exercises, and other events designed to bring about a common awareness of and appreciation for each team’s discipline and expertise.”¹²⁵ Joint training sessions were conducted and procedures established for the RRTs.

3. Smuggled Food Interdiction Team

Another cooperative program highlighted in NIJ212280 was the Smuggled Food Interdiction Team (SIFT).¹²⁶ The purpose of the SIFT is to interdict smuggled and/or illegal food products that may contain harmful diseases or pests. For one example, illegal processed meats from Mexico may contain FMD or classical swine fever (CSF) virus, which could be transmitted inadvertently or intentionally to livestock and result in an outbreak. The Safeguarding, Intervention, and Trade Compliance (SITC) team is a nationwide USDA program tasked with interdicting these products.

¹²⁵. Ibid., 131.

¹²⁶. Ibid., 140–142.

4. Agro-Guard Community Policing Program

The Agro-Guard Community Policing Program was developed by the authors of NIJ212280 to function as a neighborhood watch for agriculture with a focus on prevention and information sharing, while serving as a conduit linking law enforcement with the agriculture community.¹²⁷ The Agro-Guard concept focused heavily on prevention and included an education and outreach program to the livestock industry and law enforcement's interaction with the industry in exchanging information and intelligence gathering. Law enforcement engaged with industry stakeholders, including producers, feeders, packers, animal health professionals, etc., in an education campaign to inform them on the threat to agriculture and in reporting suspicious activity. Agro-Guard Community Policing Program signs, as seen in Figure 3, were placed throughout the agriculture community (as taken from NIJ212280).



Figure 3. Agro-Guard Sign¹²⁸

127. Ibid., 133–140.

128. Ibid., 133.

The study stresses law enforcement's duty in taking suspicious activity reports from the agriculture industry seriously and following up quickly and thoroughly. Law enforcement must forward information to state threat centers, law enforcement intelligence networks, the Joint Terrorism Task Force (JTTF), or any other applicable entity. Sharing information back with the agriculture industry was emphasized as well.

D. CONCLUSIONS AND RECOMMENDATIONS

NIJ212280 reached a series of conclusions, which were unanimously agreed upon by the authors. The authors concluded, of all the agroterrorism attack vectors considered, FMD posed the greatest threat in terms of impacts on the agriculture industry, the public, and the economy both, in the short term and in regards to long-term recovery. The study concluded a partnership between law enforcement and the agriculture industry was needed to maintain an effective agriculture defense and collaborate on early warning signs, proactive measures, and an information network. Despite law enforcement's important role in protecting agriculture, the vast research conducted for the study's extensive literature review uncovered nearly no writings on this topic. Development of information and intelligence becomes an important theme in the study, as the authors conclude the development and sharing of agriculture related intelligence is practically non-existent. Conclusions were also reached that law enforcement overall has done little to prepare and plan for meeting an agroterrorism threat or foreign animal disease outbreak, and that in the event of such a disaster, law enforcement resources would be quickly overwhelmed.¹²⁹

The authors finalized NIJ212280 with seven recommendations as summarized here:¹³⁰

- Law enforcement should become a full partner in protecting America's agriculture and food system. Lists a series of support items that the Department of Homeland Security (DHS) should provide to the state and local level

129. Ibid., 151.

130. Ibid., 151–155.

- Law enforcement around the country should implement proactive measures and preventative strategies for Agroterrorism. The three programs implemented in the study serve as program templates that can be used by other agencies including the Agro-Guard program, the Regional Response Teams for threats to the livestock industry, and the Smuggled-Food Interdiction Teams.
- These local preventive measures and programs should be funded by Federal appropriations within the DHS budget.
- The United States Department of Agriculture (USDA) Animal and Plant Health Inspection Service (APHIS) should expand its illegal meat products interdiction program.
- The National Animal Identification System (NAIS) that is now a voluntary program should be a mandatory, national program in order to assist law enforcement and epidemiologists in tracing the origin of an animal disease outbreak.
- Agroterrorism related information should be designated a specific program within the National Counter Terrorism Center (NCTC) intelligence database available to law enforcement. Local law enforcement should engage in developing information sources and intelligence concerning threats to agriculture.
- DHS should create, provide, and fund Agroterrorism awareness training for law enforcement.

E. APPLICABILITY TO FLORIDA

Many of the specific recommendations outlined in NIJ212280 were directed at the federal government level. The study included recommendations for enhancing DHS programs and training initiatives, USDA programs, mandated nationwide regulations, and federal funding. Those elements focused on the federal level were outside the scope of this thesis. Findings, conclusions, and recommendations from the study focusing on the state and local level have potential applicability to Florida. The following questions were developed from NIJ212280 to analyze Florida law enforcement's capacity to accomplish their roles and responsibilities in the prevention and response to agroterrorism:

- Is there a strategy for identifying threats to, and assessing the vulnerability of, the agriculture community in Florida?
- Does the capacity exist in Florida to effectively collect, analyze, and disseminate agriculture related information and intelligence?

- Is there a community policing strategy in the Florida agriculture community? NIJ212280 recommends the Agro-Guard model.
- In the event of an FAD event response, does the capacity exist to simultaneously handle the animal health related issues, as well as manage crime scene and evidentiary requirements and conduct a criminal investigation, if required. NIJ212280 recommends establishment of a RRT.
- Does Florida law enforcement possess the capacity to enforce quarantines and stop movement plans in the event of an FAD event?
- Does Florida engage in the interdiction of illegally imported and possibly contaminated food products? NIJ212280 recommends establishment of a SFIT.
- Are agroterrorism trainings available and/or being delivered to Florida law enforcement?

IV. THE FLORIDA ASSESSMENT

In the course of researching Florida law enforcement's role in defending against agroterrorism, several entities and programs were identified as having a primary role in this endeavor. Included among these were the Florida Department of Agriculture and Consumer Services (FDACS) and several sub-divisions and programs, including the Office of Agricultural Law Enforcement (OALE), Division of Animal Industry (DAI), Division of Food Safety (DFS), and the State Agricultural Response Team (SART). Also included at the state level were the Florida Fusion Center (FFC) and the Regional Domestic Security Task Force (RDSTF). Local level involvement included Florida Sheriff's Offices, primarily via the Florida Agriculture Crimes Intelligence Unit (FACIU). The functions of these entities and programs were analyzed within the context of the questions identified in Chapter III to analyze Florida law enforcement's capacity to accomplish their roles and responsibilities in the prevention and response to agroterrorism.

A. OVERVIEW OF FLORIDA AGRICULTURE

Before delving deeply into Florida law enforcement's roles in agroterrorism, it is beneficial to gain some perspective into the importance of the agriculture industry to the State. Florida may be best known for its gleaming white sand beaches and thrilling amusement parks, however agriculture and farming have been and continue to be vital, consistent industries contributing to the State's economic success. Agriculture is the most stable, leading segment of Florida's economy, coming in second in size and importance behind tourism.¹³¹ Florida's farm industry alone includes 47,500 farms, spread across 9.25 million acres, growing three hundred different crops.¹³² The larger inclusive

131. Larry Williams, "Impact of Florida Agriculture" (University of Florida, January 30, 2002), http://leon.ifas.ufl.edu/ag/Impact_of_Florida_Agriculture.pdf.

132. Florida Department of Agriculture and Consumer Services, *Florida Agriculture Statistical Directory 2013* (Tallahassee, FL, 7), http://www.nass.usda.gov/Statistics_by_State/Florida/Publications/Agriculture_Statistical_Directory/2013/2013%20FL%20Ag%20by%20the%20Numbers%28FASD%29.pdf.

agriculture industry (including timberland) covers 24 million acres or two-thirds of the State of Florida.¹³³

Alan Hodges, agricultural economist at the University of Florida's Institute of Food and Agricultural Sciences (IFAS), describes the three principle measures of economic activity as output, employment, and value added impact.¹³⁴ In 2010, the combined agriculture industries in Florida contributed \$109 billion in value added impact to the state economy representing over 10 percent of the state gross domestic product, and provided the state with over 2 million jobs.¹³⁵ To give these figures the proper perspective, consider that Florida is a state with a population of about 19 million and Gross State Product of \$704 billion.¹³⁶ Agriculture is a vital industry and one of the key components of Florida's economy. Florida's economy stands as the fourth largest in the United States, making the state and its economic contribution of tremendous national importance.¹³⁷

In 2011, Florida ranked first in the U.S. for production of oranges, grapefruit, sweet corn, squash, watermelons, and fresh market tomatoes, snap beans, and cucumbers.¹³⁸ Total cash receipts for Florida agriculture that year totaled \$8.26 billion¹³⁹ with fresh market crops accounting for \$1.1 billion; second in the U.S. behind California.¹⁴⁰ Livestock is an integral part of Florida agriculture. Records for 2012 listed

133. Chuck Woods, "Florida's Ag Economy Thriving," *Southeast Farm Press*, May 21, 2008, <http://southeastfarmpress.com/floridas-ag-economy-thriving-0>.

134. Ibid.

135. Alan W Hodges, Mohammad Rahmani, and Thomas J Stevens, "Economic Contributions of Agriculture, Natural Resources, and Related Industries in Florida for 2010" (University of Florida), accessed August 15, 2013:12. http://www.nass.usda.gov/Statistics_by_State/Florida/Publications/Agriculture_Statistical_Directory/2013/2013%20FL%20Ag%20by%20the%20Numbers%28FASD%29.pdf.

136. "Florida QuickFacts from the U.S. Census Bureau," United States Census Bureau, accessed August 20, 2013, <http://quickfacts.census.gov/qfd/states/12000.html>.

137. "Florida GDP Size and Rank," Econpost.com, January 12, 2010, <http://econpost.com/floridaeconomy/florida-gdp-size-rank>.

138. Florida Department of Agriculture and Services, *Florida Agriculture Statistical Directory 2013*:7.

139. Ibid., 2013:13.

140. Ibid., 2013:7.

1.66 million head of cattle of which 900,000 were beef cows and 123,000 were milk cows.¹⁴¹ Livestock is roughly a \$1.5 billion dollar industry in Florida.¹⁴²

While Florida agriculture products are shipped and enjoyed all around the United States, exports to foreign countries consume the bulk of the production with \$4 billion in export receipts. In 2012, Florida ranked seventh nationwide in agriculture exports. Fresh and frozen meat products topped the list of exported products. The findings of the Literature Review in examining the consensus of opinion from experts in the field, as well as the findings of NIJ212280, all have concluded an FAD such as FMD to be the primary threat to agriculture. Experiences with livestock FAD outbreaks around the globe such as the FMD outbreak in the United Kingdom in 2001, as well as the BSE outbreak in the United States in 2003, have resulted in devastation to those nations' livestock industries and related exports. The importance of the agriculture industry in the State of Florida cannot be overstated, nor can the potential threat of harm.

A few years ago FDACS sought to answer how harmful the threat to agriculture could be and completed a cost study of the economic damage resulting from a large-scale animal disease event, either naturally occurring or an agroterror attack. Estimated costs and losses are as follows: \$1.8 billion for the slaughter of animals, \$1 billion in farm disinfection costs, \$658 million in animal disposal costs, \$78 million for business recovery, \$21 million in marketing support, \$4 billion in lost agriculture industry revenue, and a 20% hit to Florida's tourism industry. At \$107 billion for direct tourism revenues a 20% loss would be \$21.4 billion. Totaling these figures brings a grand total just under \$29 billion.¹⁴³

141. Ibid.

142. Ibid.

143. Amanda Hodges and Rick Sapp, "SART Workbook: The Threat of Agroterrorism and Bioterrorism in Florida – Prevention and a Coordinated Response" (Tallahassee, FL: Florida State Agricultural Response Team, 2006): 11, <http://www.flsart.org/pdf/Workbook%20Agroterrorism.pdf>.

The estimated costs for an animal disease event in Florida were cited from the SART Workbook, however the original source for this data could not be ascertained. It is unclear how these cost estimates were calculated.

B. FOREIGN ANIMAL DISEASE RESPONSE

If all prevention efforts fail and an FAD outbreak occurs, there will be a response to contain and eradicate the disease spread, as well as to investigate criminality, if involved. NIJ212280 recommended deployment of a Rapid Response Team comprised of animal health and law enforcement officials in order to address the animal health and outbreak elements, as well as manage crime scene, evidence, and criminal investigation if needed. In Florida, an FAD event falls under the statutory authority of FDACS. Florida State Statutes (FSS) chapter 585 establishes the Division of Animal Industry (DAI) and empowers DAI with regulatory authority and jurisdiction over livestock and large animals within the state with the exception of wild game and zoo or carnival animals.¹⁴⁴ FSS 585.145(1) and 585.16 establish the division's authorities in dealing with and responding to an animal disease event:

585.145(1) Control of animal diseases.

The department shall take such measures as may be necessary and proper for the control, suppression, eradication, and prevention of the spread of contagious, infectious, and communicable disease and to protect animals in the state. The department shall also quarantine such animals as it shall find, or have reason to believe, to be infected with or exposed to any such disease.¹⁴⁵

585.16 Powers of division in connection with certain diseases.

Whenever the department determines, pursuant to s. 585.15, that a pest or disease is dangerous and transmissible, or whenever the department determines it necessary or advisable to dip, examine, test, identify, treat, or destroy an animal or other property defined in s. 585.08(4), the division or its representatives and agents may dip, examine, test, identify, treat, or destroy any infected, exposed, suspected, or susceptible animal and any goods, products, or materials that may carry contagion, or may quarantine on or in, for or against any premises, areas, or localities within the state.¹⁴⁶

144. "Animal Industry," F.S.S. Ch. 585, accessed July 11, 2014, <http://www.flsenate.gov/Laws/Statutes/2013/585.08>.

145. "Control of Animal Diseases," F.S.S. Ch. 585.145, accessed July 15, 2014, http://leg.state.fl.us/statutes/index.cfm?App_mode=Display_Statute&Search_String=&URL=0500-0599/0585/Sections/0585.145.html.

146. "Power of Division in Connection with Certain Diseases," F.S.S., Ch. 585.16, accessed July 15, 2014, http://leg.state.fl.us/statutes/index.cfm?App_mode=Display_Statute&Search_String=&URL=0500-0599/0585/Sections/0585.16.html.

These statutes authorize DAI to take any measure necessary to control and eradicate animal diseases including quarantining, testing, and destroying animals if required. Other subsections in chapter 585 require the reporting of animal diseases to DAI and establish animal testing laboratories under the division.

In the event an animal is found infected with an FAD, the FDACS would be notified and respond pursuant to state law. The response effort would be conducted according to the FDACS Foreign Animal Disease Emergency Response Plan (FAD-ERP).¹⁴⁷ This is a 38-page document, which covers responsibilities and authorities and concept of operations for preparedness, response, recovery, and mitigation. The State Agricultural Response Team (SART) is noted as a key component of preparation for an FAD event. The SART mission, as stated in the FAD-ERP, is “to develop and implement procedures and train participants to facilitate a safe, environmentally sound, and efficient response to agriculture emergencies or disasters at the county, district, and state levels.”¹⁴⁸ Depending on the size and growth of the event, other components of Florida’s emergency management apparatus could come into play as well, such as activation of the State Emergency Operations Center (SEOC) and the Comprehensive Emergency Management Plan (CEMP).¹⁴⁹ If an event of this magnitude occurred, the governor would probably declare a state of emergency by executive order.

The response section of the FAD-ERP includes details of all aspects of an FAD including how detection and assessment of the disease would occur, notifications made, and activations and deployments will be implemented. The plan states the Incident Command System (ICS) will be followed with a Unified Command to be established with the state and USDA. Implementation and enforcement of quarantines is covered, as well as vaccination methodology. agroterrorism or other criminal acts associated with the FAD are not addressed in the plan. However, the response procedures to an FAD event, whether naturally occurring or intentional, are largely the same. The one difference

147. Florida Department of Agriculture and Consumer Services, *Foreign Animal Disease Emergency Response Plan* (Tallahassee, FL, January 11, 2013).

148. *Ibid.*, 13.

149. Florida Division of Emergency Management, *Florida Comprehensive Emergency Management Plan*, accessed August 1, 2014, <http://floridadisaster.org/cemp.htm>.

would be the law enforcement investigation that would accompany a response effort to an agroterrorism or criminal act. There are two references to law enforcement in the plan. It is noted that OALE or other law enforcement personnel could be assigned to guard facility entrances. In the Quarantines section it is noted that law enforcement would be required to enforce established zone perimeters.¹⁵⁰

OALE authorities are provided for in FSS 570.073, Department of Agriculture and Consumer Services, law enforcement officers. The key elements of this statute to note are found in section (1) granting OALE officers primary responsibility for agriculture-related law enforcement and having jurisdiction over laws pertaining to the security and safety of Florida's agriculture. This statute grants OALE officers with same police powers as those bestowed on all other law enforcement entities in the state with the authority to enforce any state law. The primary responsibilities set forth by the statute place OALE in the position to support all FDACS responsibilities and functions in a law enforcement capacity. This statute may be reviewed in its entirety in Appendix A.

However, while OALE is duly authorized and does support these FDACS missions, including response to an FAD event if requested, OALE has no mission focus on agroterrorism. The OALE Power DMS system is where policies and training bulletins are housed. A search of this system with the term "Agroterrorism" found no search results. A search of this system with the term "terrorism" found seven search results, none of which were related to agroterrorism.¹⁵¹

The SART is a Multi-Agency Coordination (MAC) group coordinating partner entities for the animal and agriculture sector into an ICS specialty team for all-hazard response for incidents involving animals or the agriculture industry. The SART Standard Operations Guide (SOG) specifically identifies their activation for high consequence animal disease events and manmade or intentional acts and terrorism events including chemical, biological, radiologic, nuclear, and explosive incidents that involve animals or the agriculture industry. The Team Concept of Operations identifies FDACS as the lead

150. Florida Department of Agriculture and Consumer Services, *Foreign Animal Disease Emergency Response Plan*.

151. Office of Agricultural Law Enforcement, *Written Directives*.

agency and provides an IC structure. The SOG does not include a law enforcement component.¹⁵² SART teams are found in every region and SART members are located in every county of the state capable of responding to any animal or agriculture related incident.

SART does not have an official membership role and could not place a number on how exactly how many members are associated with the group. As a MAC group SART is not a closed membership team, but is instead a coordinator of thirty-three partner agencies and associations who can supply skilled help depending on the nature of the emergency. For instance, if the event called for the need to round up thousands of head of cattle roaming across hundreds of acres, SART would call the Florida Cattleman's Association and ask for a response of X number cowboys and mounts. The specialty teams are known quantities. SART has a 20-man large animal technical rescue team in each of the state's seven regions. Over 1200 volunteers around the state have been trained for the small animal rescue teams. SART's VetCore program includes a core of 200 private veterinarians who are trained and committed to responding to assist as needed.

The SART website receives about 40,000 hits per month and has over 1,000 volunteers signed up for access to the members-only portion of the site.¹⁵³ The team's SOG Equipment Appendix lists the deployable equipment staged around the state, which includes FAD response trailers, Incident Command Post trailers, Mobile Animal Response Equipment units, Large Animal Rescue units, and various other response, communication, and maintenance equipment.¹⁵⁴ SART also has access to a mobile laboratory for conducting tests in the field.

In the event that the governor declares a state of emergency and the SEOC is stood up, the roles within the center will be filled in accordance with the Emergency Support Functions (ESF) as described in the FEMA National Response Framework

152. Florida Department of Agriculture and Consumer Services, *State Agricultural Response Team Standard Operations Guide* (Tallahassee, FL, April 2013).

153. "Florida State Agricultural Response Team," accessed August 21, 2014, <http://www.flsart.org/>.

154. *State Agricultural Response Team Standard Operations Guide*, Appendix A.

(NRF).¹⁵⁵ The FEMA model includes fifteen ESFs each of which supports a different aspect of a response, event, or disaster, such as communications, firefighting, and public safety. The Florida ESF model as found in the CEMP is an expansion over the federal model with eighteen ESFs. ESF-17 is for Animal and Agricultural Issues with a responsibility to:

Coordinate the state's response for animal and agricultural issues in case of an emergency or disaster situation. To accomplish this goal, Emergency Support Function 17 oversees the emergency management functions of preparedness, recovery, mitigation, and response with all agencies and organizations that are involved with the state's response activities.¹⁵⁶

FDACS takes the lead role for the ESF-17 function, and SART directly supports this function as well.

C. QUARANTINES AND STOP MOVEMENT ENFORCEMENT

NIJ212280 identified the capability to effectively enforce quarantines and stop movements as a significant challenge for most states and most law enforcement organizations. The ability to enact effective quarantines and enforce restrictions on animal movements are integral components to a disease outbreak response. Florida is unique in this topic due both to geography and having a large state law enforcement entity dedicated to agriculture enforcement, OALE. Authorities for enacting animal related quarantines and stop movements are established by state statute in chapter 585, Animal Industry. FSS 585.05(1) authorizes the FDACS Division of Animal Industry (DAI) to:

Establish, maintain, and enforce quarantine areas within the state, or the entire state. The department may restrict, regulate, or prohibit the movement or transportation of animals found, determined, or suspected by it to be carriers of any contagious, infectious, or communicable disease, or of the vectors of such disease, into, from, and within such quarantine areas, when necessary for the prevention, control, or eradication of any

155. "National Response Framework," Federal Emergency Management Agency, accessed August 1, 2014, <http://www.fema.gov/national-response-framework>.

156. *Florida Comprehensive Emergency Management Plan*, appendix, page 1.

contagious, infectious, or communicable disease among domestic or wild animals, or for carrying out any of the other purposes of this chapter.¹⁵⁷

Having established a legal mechanism for enacting quarantines or restricting animal movements is common to most states. As pointed out in NIJ212280, the difficult task is in effectively enforcing these orders.

In an FAD outbreak, quarantines would be established in accordance with the Florida FAD-ERP and USDA APHIS requirements. USDA could place the entire state under quarantine, unless the extent of the outbreak could be confirmed to a smaller geographic area, in which case zone quarantines would be established.¹⁵⁸ Seven designated zone and area types are included in the APHIS Foreign Animal Disease Preparedness and Response Plan (FAD PRoP).¹⁵⁹ The zones requiring law enforcement engagement include the Infected Zone, Buffer Zone, and Surveillance Zone. The Infected Zone is set a minimum of three kilometers beyond the perimeter of the outbreak location. The Buffer Zone is set a minimum of seven kilometers outside the perimeter of the Infected Zone. The Infected Zone and Buffer Zone combine to form the Control Area. Strict movement controls will be in place inside the Control Area requiring enough law enforcement presence to enforce the quarantines as determined by the geography, roadways, and amount of traffic.¹⁶⁰

The USDA Zone Map in Figure 4 depicts how quarantine zones would be set around infected areas in a typical large regional outbreak (as taken from *USDA FMD Response Ready Reference Guide—Understanding Response Strategies*).

157. “Animal Industry.”

158. Florida Department of Agriculture and Consumer Services, *Foreign Animal Disease Emergency Response Plan*.

159. United States Department of Agriculture, APHIS Foreign Animal Disease Framework Response Strategies.FAD PRoP Foreign Animal Disease Preparedness and Response Plan. (Washington, DC, April 2014), http://www.aphis.usda.gov/animal_health/emergency_management/downloads/documents_manuals/fadprep_manual_2.pdf.

160. Ibid.

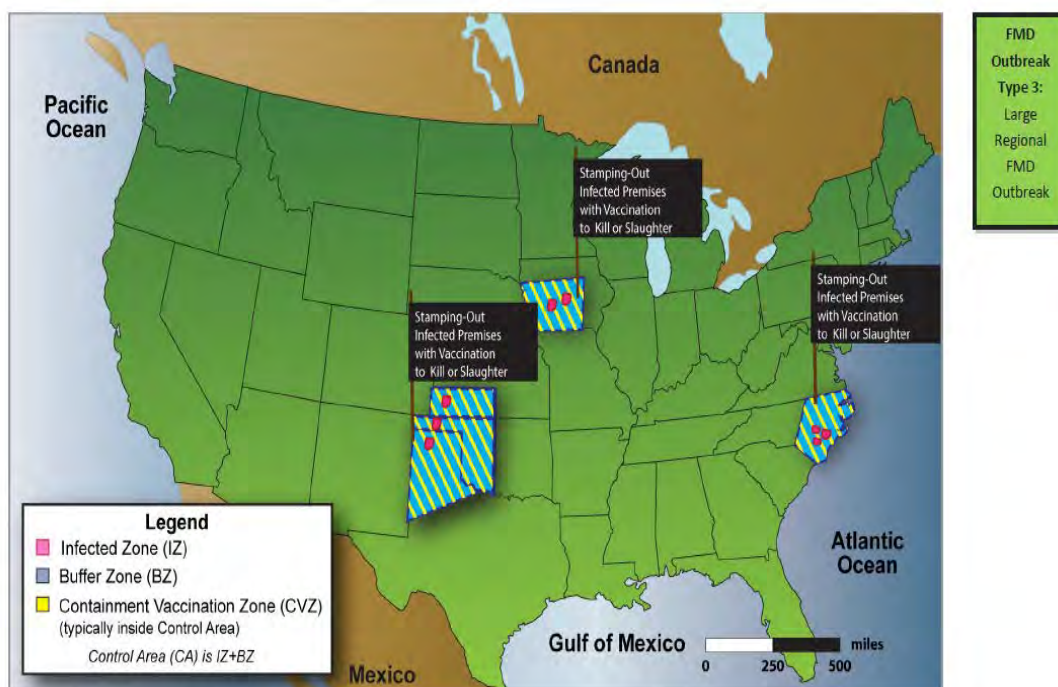


Figure 4. FMD Outbreak Type 3.¹⁶¹

While minimum perimeter sizes are noted for these zones, in actuality, the sizes could extend much farther, depending on the size and type of the outbreak. The FAD-E RP notes the Infected Zone or Red Zone should be a minimum of 10 kilometers outside the perimeter in the case of an FMD outbreak. The Surveillance Zone or Yellow Zone is set outside the infected areas, and animal movements with permits are allowed to transit this zone. Law Enforcement would be required in the Surveillance Zone to check for and enforce the permit requirements.¹⁶² Florida law enforcement must be prepared to enforce stop movements and quarantine zones in several scenarios. These range from entire state quarantines where movements of all susceptible species are prohibited throughout the state to small area quarantines to regional areas with multiple zone enforcement requirements.

¹⁶¹. United States Department of Agriculture, *FMD Response - Understanding Response Strategies* (Washington, DC, August 2013), 6. http://www.aphis.usda.gov/animal_health/emergency_management/downloads/fmd_rrg_understanding_strategies.pdf.

¹⁶². Florida Department of Agriculture and Consumer Services, *Foreign Animal Disease Emergency Response Plan*.

FDACS and OALE have extensive experience and capabilities in enforcing quarantines and stop movements on agriculture. Animal quarantine actions are not an unusual event in Florida and are routinely enforced at OALE stations. The OALE Uniform Bureau operates 23 interdiction stations on 19 highways regulating the flow of cargo and agriculture products in and out of Florida 24 hours a day 365 days a year.¹⁶³ The OALE interdiction station locations are shown on the map in Figure 5 (as taken from the OALE website).

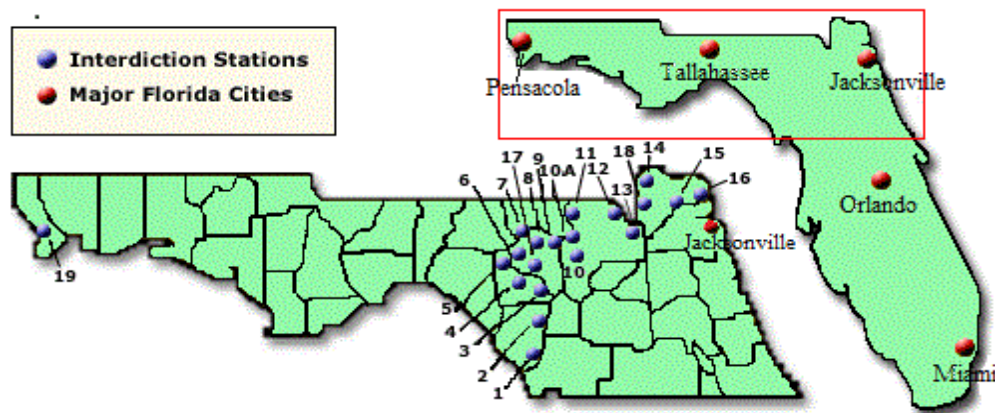


Figure 5. OALE Interdiction Station map.¹⁶⁴

The interdiction stations are strategically positioned to ensure that all cargo moving in and out of the agriculture production regions of the state must pass through a station. Florida's natural geographic boot shape and waterways result in 19 bridges providing access from North Florida into the primary agriculture regions of the state. This makes for an effective state quarantine and movement restriction enforcement capability.

According to the FDACS Animal Shipment Violations report from January 1, 2013, to December 31, 2013, OALE enforced 231 quarantines on livestock shipments at their interdiction stations.¹⁶⁵ During this time period, nearly 1 million animals passed

163. "Bureau of Uniform Services," Office of Agricultural Law Enforcement, accessed July 11, 2014, <http://www.freshfromflorida.com/Divisions-Offices/Agricultural-Law-Enforcement/Bureau-of-Uniform-Services>.

164. Ibid.

165. Florida Department of Agriculture and Consumer Services, *Animal Shipment Violations* (Tallahassee, FL, accessed July 29, 2014).

through the OALE interdiction stations transiting in and out of Florida, all of which had to pass through one of these stations in order to get into or out of the primary agriculture and livestock production areas of the state.¹⁶⁶

Local enforcement of zone quarantines could potentially become a more complicated issue, as would the case of an outbreak in the panhandle beyond the security of the interdiction station network. These scenarios would require officers and vehicles on the ground with the capability of enforcing the quarantines across geographic zones without the benefit of the interdiction stations. FDACS and OALE have extensive experience with this scenario as well. In 1995, the citrus canker bacterial disease was found infecting trees in Miami. The canker quickly began spread across South Florida infecting 24 counties. With Florida's citrus industry on the line, FDACS threw a massive response effort at the outbreak, including local and regional zone quarantines and eradication very similar to the response protocols to an FMD outbreak. The response efforts were working to contain the canker outbreak, until the hurricanes of 2004 and 2005 blew the disease all across the state rendering eradication impossible.¹⁶⁷

D. INTERDICTION OF CONTAMINATED FOOD PRODUCTS

One of the recommendations from NIJ212280 was to establish smuggled food interdiction teams in order to identify potentially contaminated food products of foreign origin, which have the potential to spread FADs such as FMD. Responsibilities, authorities, and regulatory programs were examined in Florida in order to evaluate the State's engagement in interdicting contaminated food products. Responsibility for

166. Florida Department of Agriculture and Consumer Services, *Animal Inshipments and Outshipments* (Tallahassee, FL, accessed July 29, 2014).

167. "Citrus Canker," United States Department of Agriculture, accessed July 31, 2014, http://www.aphis.usda.gov/wps/portal/aphis/ourfocus/importexport?1dmy&urile=wcm:path:/aphis_content_library/sa_our_focus/sa_plant_health/sa_domestic_pests_and_diseases/sa_pests_and_diseases/sa_plant_disease/sa_citrus/ct_citrus_canker.

"Citrus Canker Fact Sheet," Florida Department of Agriculture and Consumer Services, accessed July 31, 2014, <http://www.freshfromflorida.com/Divisions-Offices/Plant-Industry/Pests-Diseases/Citrus-Health-Response-Program/Citrus-Canker/Citrus-Canker-FAQs>.

Florida Department of Agriculture and Consumer Services, *Comprehensive Report on Citrus Canker in Florida* (Tallahassee, FL, December 2012), <http://www.freshfromflorida.com/content/download/24084/487233/cankerflorida.pdf>.

regulation of food products in Florida is divided between three state agencies as specified in state statutes to include FDACS, Florida Department of Health (DOH), and Florida Department of Business and Professional Regulation (DBPR). The rolls these entities play were examined individually.

FSS 381.0072 assigns DOH with responsibility for inspecting and ensuring the safety of food products served in certain establishments. The DOH website describes their area of responsibility as institutional type establishments with food service operations, such as schools, assisted living facilities, detention facilities, and some bars and theatres.¹⁶⁸ Inspection standards and requirements are outlined in FAC 64E-11.¹⁶⁹

DBPR is mandated with regulating and ensuring food safety standards in restaurants as specified in FSS chapter 509. The Division of Hotels and Restaurants licenses and inspects all public lodging and food service establishments with the exception of those specifically tasked to DOH.¹⁷⁰ The Division regulates 85,000 facilities in Florida in accordance with the United States Food and Drug Administration (FDA) 2009 Food Code standards.¹⁷¹ According to the DBPR *Division of Hotels and Restaurants Annual Report: FY 2012–2013* the division's 296 inspectors conducted 160,807 inspections resulting in 752,041 violations cited.¹⁷²

With the regulation of all prepared food service venues being covered by DOH and DBPR, the remaining food safety concerns focus on food products being transported into the state and those being sold and marketed at grocery, meat, and other retailers. These food safety responsibilities fall under the purview of FDACS as directed by the

168. "Food Safety and Sanitation," Florida Department of Health, accessed July 11, 2014, <http://www.floridahealth.gov/%5C/healthy-environments/food-safety-and-sanitation/index.html>.

169. "Food Hygiene," F.A.C. Code 64E-11, 1996.

170. "Division of Hotels and Restaurants," Florida Department of Business and Professional Regulation, accessed July 11, 2014, <http://www.myfloridalicense.com/dbpr/hr/index.html>.

171. Florida Department of Business and Professional Regulation, *Division of Hotels and Restaurants Annual Report: FY2012–2013* (Tallahassee, FL, 2013). http://www.myfloridalicense.com/dbpr/hr/reports/annualreports/documents/ar2012_13.pdf.

172. *Ibid.*, 2.

Florida Food Safety Act, FSS chapter 500.¹⁷³ The Division of Food Safety (DFS) is tasked with carrying out these statutory requirements. DFS responsibilities, as noted on their webpage, include the following:

The Division of Food Safety is responsible for assuring the public of a safe, wholesome and properly represented food supply through permitting and inspection of food establishments, inspection of food products, and performance of specialized laboratory analyses on a variety of food products sold or produced in the state. The division monitors food from farm gate through processing and distribution to the retail point of purchase.

The division is charged with administration and enforcement of the food and poultry and egg laws, and also provides support in the enforcement of other food safety laws. In addition to regulatory surveillance and enforcement, the division evaluates consumer complaints related to food.¹⁷⁴

By virtue of the Florida Food Safety Act FDACS is the lead agency charged with regulating and overseeing the state's food supply. FSS 500.60 specifically tasks FDACS with responsibility for ensuring health and safety standards and regulation of meat, poultry, and fish products.¹⁷⁵ FSS 500.601 specifies FDACS regulatory authority over the retail sale of meat.¹⁷⁶ The interdiction of meat products illegally transported into the U.S. and then sold to the public was the specific concern identified in NIJ212280 resulting in the establishment of SFIT teams.

FDACS regulation of food and meat products is accomplished in three layers. The first line of defense is the OALE interdiction station network at the state entry points, proactive inspection of retail sales establishments, and reacting to consumer complaints.

173. "Food Products," Florida Food Safety Act, F.S.S. Ch. 500, accessed July 11, 2014, http://www.leg.state.fl.us/Statutes/index.cfm?App_mode=Display_Statute&URL=0500-0599/0500/0500ContentsIndex.html&StatuteYear=2012&Title=-%3E2012-%3EChapter%20500.

174. "Division of Food Safety," Florida Department of Agriculture and Consumer Services, accessed July 11, 2014, <http://www.freshfromflorida.com/Divisions-Offices/Food-Safety>.

175. "Regulation of Meat Preempted to State," Florida Food Safety Act F.S.S. 500.60, accessed July 11, 2014, http://www.leg.state.fl.us/Statutes/index.cfm?App_mode=Display_Statute&Search_String=&URL=0500-0599/0500/Sections/0500.60.html.

176. "Retail Sale of Meat," Florida Food Safety Act F.S.S. Statute 500.601, accessed July 11, 2014, http://www.leg.state.fl.us/Statutes/index.cfm?App_mode=Display_Statute&Search_String=&URL=0500-0599/0500/Sections/0500.601.html.

OALE inspects all shipments of food entering the state at their interdiction stations armed with DFS standards and regulations. OALE authorities to enforce DFS regulations are provided via FSS 570.073 granting statutory authority to support all FDACS responsibilities and functions in a law enforcement capacity.¹⁷⁷ The DFS form entitled *Food Safety Inspections Guidelines At Interdiction Stations* provides guidance for OALE inspections and enforcement actions of food products. The form specifies regulated products and the required temperatures, packaging and labeling standards, and other requirements such as cross contamination.¹⁷⁸ Additionally, all OALE sworn personnel have received food safety enforcement training as found in Training Bulletin 2012–04 *Food Safety Training* in the OALE Policy and Procedures.¹⁷⁹ During the fiscal year dates of July 01, 2012, to June 30, 2013, OALE discovered and enforced thirty-two food safety related violations at their interdiction stations on food products entering Florida.¹⁸⁰

The Division of Food Safety conducts regular inspections of food retailers such as grocery, meat, food processors, convenience stores, truck stops and other retail establishments. DFS employs 140 inspectors who have responsibility and authority over 48,000 permitted establishments.¹⁸¹ OALE Investigations Bureau supports DFS if law enforcement action is or could be required in conjunction with their regulatory function and routinely accompanies DFS on inspection and enforcement assignments. Table 1 displays OALE investigations in support of food safety enforcement actions for the first six months of 2014 (as taken from the OALE ACISS Case Management and Reporting System):

177. “Department of Agriculture and Consumer Services, Law Enforcement Officers.”

178. Florida Department of Agriculture and Consumer Services, *Food Safety Inspections Guidelines At Interdiction Station*, (Tallahassee, FL, 2012).

179. Office of Agricultural Law Enforcement, *Written Directives*, TB 2012–04.

180. Tim Rutherford, *Monthly Report* (Tallahassee, FL, July 2013).

181. Office of Agricultural Law Enforcement, *Written Directives*, TB 2012–04.

DATE	CASE #	CASE TYPE
01-29-14	14-274	Arrest made for violation of stop sale order
02-10-14	14-384	Assist other agency with stop sale order at dairy
03-06-14	14-669	Assist other agency with intentional tampering of meat product resulting in death investigation
03-21-14	14-875	Assist DFS with unlicensed fish/seafood processing
04-03-14	14-1051	Arrest made for violation of stop sale order
04-14-14	14-1179	Assist DFS with dairy inspection of out of service equipment
04-18-14	14-1230	Assist DFS with food handling complaint of business
04-18-14	14-1233	Assist DFS with consumer complaint of fish products
04-23-14	14-1307	Assist DFS with stop sale order on business
04-24-14	14-1318	Assist DFS with dairy inspection of out of service equipment
04-30-14	14-1398	Assist DFS with consumer complaint of meat products
05-05-14	14-1466	Assist DFS with investigation of misbranded product
05-08-14	14-1501	Assist DFS with food handling and sanitation investigation

Table 1. OALE Investigations in Support of Food Safety¹⁸²

Many of these cases reflect routine inspections or enforcement actions on the part of DFS, where OALE has accompanied inspectors to provide a law enforcement capability if needed. In two of these cases OALE investigators made arrests for criminal charges on the subjects involved. Case 14-274 involved a business wherein DFS had placed a stop sale order and seizure order on the food products within, and the subject had unlawfully removed the stop sale orders and products. Case 14-1051 involved a business that had previously been issued stop sale orders for the sale of uninspected and unbranded food products. The subject was found in possession of more of the same products.¹⁸³

182. "ACISS Case Management," Office of Agricultural Law Enforcement (accessed July 11, 2014).

183. *Ibid.*

E. THREAT AND VULNERABILITY ASSESSMENTS

Identification of threats and assessment of vulnerabilities in the agriculture industry is incorporated into this community policing approach. Research was conducted into Florida's domestic security strategy to analyze how Florida approaches these issues. Florida's domestic security strategic governance is a multi-jurisdictional, multi-discipline layered structure comprised of seven Regional Domestic Security Task Forces (RDSTF), a State Working Group on Domestic Preparedness comprised of RDSTF members, Urban Area Security Initiative representatives, and other subject matter experts, and the Domestic Security Oversight Council (DSOC). The DSOC serves as an executive level advisory to the governor and legislature as well as guidance and oversight to the RDSTF and SWG. The DSOC, in collaboration with the SWG, establishes Florida's domestic security strategy as codified in the Domestic Security Strategic Plan (DSSG).¹⁸⁴

The Domestic Security Strategic Plan provides "a blueprint for comprehensive, enterprise-wide planning for domestic security efforts...guidance for the use of federal, state, local, and private resources within the state before, during, and after events or incidents, whether natural or man-made, to include terrorism...serves as the basis for requesting funds."¹⁸⁵ The plan is based upon and tied to the DHS Target Capabilities List and the National Priorities. The Strategic Plan contains five goals including Prepare, Prevent, Protect, Respond, and Recover. Goal 3 is to Protect Florida's Citizens, Visitors, and Critical Infrastructure. Goal 3 includes five Objectives. The first two of these Objectives are Objective 3.1 Critical Infrastructure Protection and Objective 3.2 Food and Agriculture Safety and Defense.

With Objectives 3.1 and 3.2 of the Strategic Plan the need for vulnerability assessments in the agriculture industry, as outlined in NIJ212280, were articulated as a priority in Florida's domestic security strategy. These Objectives may be reviewed in

184. Florida Department of Law Enforcement, *2011 Domestic Security Annual Report* (Tallahassee, FL, December 31, 2011). <http://www.fdle.state.fl.us/Content/getdoc/ec16ac6a-13a7-40a8-8123-f0e52e749783/FINAL-2011-DS-Annual-Report.aspx>.

185. Florida Department of Law Enforcement. Domestic Security Oversight Council, *Florida Domestic Security Strategic Plan 2012 - 2014* (Tallahassee, FL, July 15, 2011), 5. <http://www.fdle.state.fl.us/Content/getdoc/13b174e9-e137-41b0-98fc-09b846bc8cdb/StrategicPlanandFundingStrategyOctober2001.aspx>.

their entirety in Appendix B. Florida's Critical Infrastructure Protection Strategy is, "To strengthen Florida's terrorism prevention and preparedness efforts by identifying, prioritizing, and assessing the vulnerabilities of the critical infrastructure in this State, and developing effective strategies for strengthening their security and protection."¹⁸⁶ The Critical Infrastructure Program was stood up in 2002 under the RDSTFs to implement this strategy.¹⁸⁷ The RDSTFs are configured across Florida as depicted in Figure 6 (as taken from the 2012 Domestic Security Annual Report).

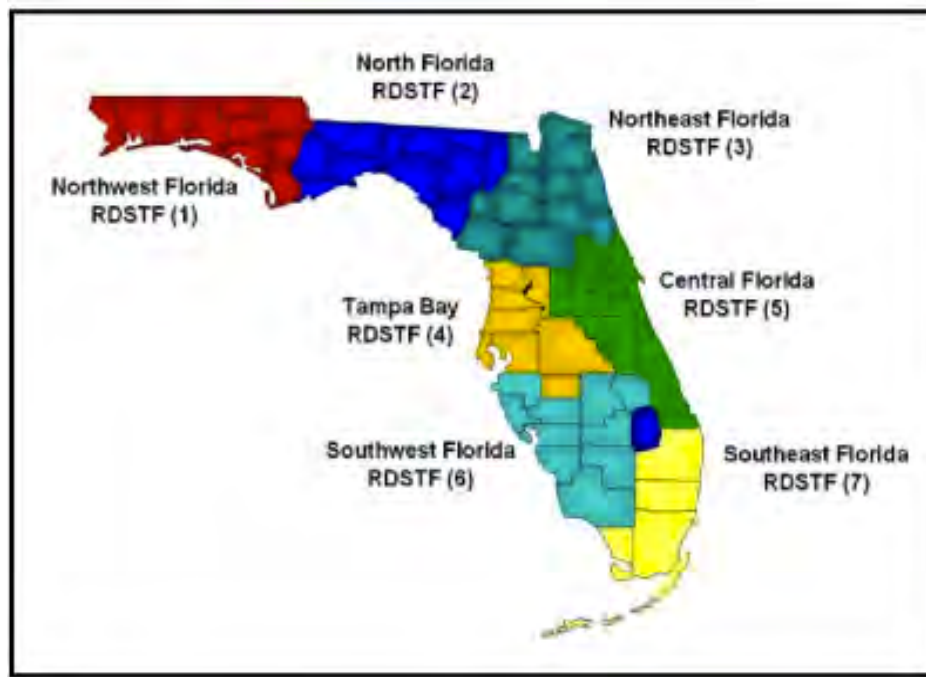


Figure 6. Regional Domestic Security Task Force Map¹⁸⁸

Until 2014, there were seven critical infrastructure planner positions across the state with six assigned to each of the RDSTFs and one statewide planner, who were

186. "BUSINESSSAFE," Florida Department of Law Enforcement, 6, accessed July 14, 2014, http://gtbacp.com/presentations/BSAFE_TBR_version_03302010.pdf.

187. Sylvia Ifft, "Florida's Critical Infrastructure Protection Program," *The CIP Report*: George Mason University Center for Infrastructure Protection and Homeland Security 13, no. 1 (July 2014): 21. http://cip.gmu.edu/wp-content/uploads/2013/06/CIPHS_TheCIPReport_July2014_State_and_Tribal.pdf

188. Florida Department of Law Enforcement, *2012 Domestic Security Annual Report* (Tallahassee, FL, December 31, 2012), 4, <http://www.fdle.state.fl.us/Content/Publications/Documents/Domestic-Security/2012-DS-Annual-Report.aspx>.

tasked with coordinating resources to implement critical infrastructure training, conduct vulnerability assessments, provide support and recommendations for critical infrastructure protection, and identify and develop infrastructure protection initiatives.¹⁸⁹ The critical infrastructure planner positions are currently being phased out in Florida due to funding issues. The planner duties are being shifted to the RDSTF planners who will have to continue regional planning responsibilities as well as assume the critical infrastructure responsibilities.

A similar capability is also provided via the five DHS Protective Service Advisors assigned to Florida, who focus on nationally significant infrastructure, while the state planners focus on the state and local level.¹⁹⁰ Until 2014, assessment data were input into an Automated Critical Asset Management System. This system has been discontinued by DHS and is currently being migrated to a new Internet based tool.

Vulnerability assessments across the sixteen critical infrastructure sectors have been conducted continually since 2002, and there are therefore data sets that would have provided insight into the extent to which food and agriculture issues have (or have not) been tracked, prioritized, and addressed. For a variety of political, organizational, and technical reasons that data sets are as of this writing inaccessible. Had they been available for analysis, they would presumably have confirmed anecdotal evidence that suggests no attention to these issues.

F. AGRICULTURE COMMUNITY POLICING

The NIJ212280 makes an argument for adapting the community-policing model specifically to the agriculture community and offers the Agro-Guard concept used in Kansas as a potential template. The SART group has a role in target hardening the agriculture sector as stated in the SART Project Information worksheet for the State Homeland Security Grant Program. As taken from the Strategy section, “SART partners with agriculture responders and producers to develop and train on planning, prevention and biosecurity. Active awareness and protective actions in the agricultural community

189. Ifft, “Florida’s Critical Infrastructure Protection Program.”

190. Ibid.

help defend the supply chain to reduce food safety threats and attempts at agroterrorism.”¹⁹¹ Additionally, SART meets with each of the sixty-seven Florida counties each year regarding food and agriculture defense, conducts monthly advisory board meetings, quarterly team meetings, publishes a monthly newsletter, meets with the regional RDSTFs, coordinates with the veterinary community including a yearly training event, and provides twenty-five FEMA courses around the state including a large animal technical rescue workshop.,¹⁹²¹⁹³

While these SART efforts do not include critical infrastructure assessments, they do demonstrate the high level of engagement SART has in the agriculture sector and community. This seems to reflect the closest representation to an agriculture community-policing model, as described in NIJ212280, to be found at this time in the State of Florida. However, SART lacks a law enforcement component. Another organization that appears to have some community policing aspect to it is the FACIU.

The FACIU has primarily an intelligence and information-sharing mission and is comprised of thirty-six different Florida law enforcement agency partners.¹⁹⁴ The FACIU also has non-sworn government entity members through the USDA and FDACS, as well as having some private sector partners in the agriculture industry through some of the larger stakeholders such as Ben Hill Griffin and Lykes Ranch.¹⁹⁵ FACIU has the law enforcement component that SART lacks, but does not have a community-policing mission. The FACIU does have direct ties to the agriculture community though, primarily via its local county sheriffs members.

191. Office of Agricultural Law Enforcement, *SART Project Information* (Tallahassee, FL, 2014), 5.

192. Ibid

193. Office of Agricultural Law Enforcement, *SART Project Development Template Budget Detail Worksheet* (Tallahassee, FL, 2014).

194. “News Release - FACIU Training,” Highlands County Sheriff’s Office, November 7, 2013, http://www.highlandssheriff.org/document_center/11_07_2013_Press_News_Release_FACIU_Conducts_Training.pdf.

195. Ibid.

G. AGRICULTURE INTELLIGENCE

The concepts of information sharing between law enforcement and the agriculture industry and engaging in intelligence collection and dissemination specific to threats to agriculture came up several times in NIJ212280. Florida law enforcement entities use several avenues of intelligence and information sharing, including the state fusion center network, information sharing initiatives, and task forces. There are seven regional fusion centers aligned geographically with the RDSTFs with the primary state center, the Florida Fusion Center (FFC), located in Tallahassee. Various information-sharing initiatives are used around the state, including the Regional Law Enforcement Exchange (R-LEX), SmartCOP, Finder, and the Florida Law Enforcement eXchange (FLEX) project at the state level.¹⁹⁶ SharePoint is another information sharing platform used and offered by the FFC.¹⁹⁷ Multi-agency task forces are commonly used to bring disparate departments together to enhance the sharing of information and resources with a focus on a common goal or problem. Task forces in the state with missions that are not specifically focused on, yet could be related to agroterrorism include the Joint Terrorism Task Force (JTTF) and the Florida Agriculture Crime Intelligence Unit (FACIU).

Fusion centers are addressed in the President's 2010 National Security Strategy identifying their importance in preventing acts of terrorism by integrating intelligence, law enforcement, and homeland security.¹⁹⁸ Regarding the national network of fusion centers, DHS states, "State and major urban area fusion centers (fusion centers) serve as focal points within the state and local environment for the receipt, analysis, gathering, and sharing of threat-related information between the federal government and state, local, tribal, territorial (SLTT) and private sector partners."¹⁹⁹ The FFC in Tallahassee is the State's primary center feeding into and sharing information between the six other

196. "Florida Law Enforcement eXchange (FLEX)," Florida Department of Law Enforcement, accessed July 15, 2014, <http://www.fdle.state.fl.us/content/getdoc/84fc2ffe-93ba-4b57-8c93-8ff4ac4a31b8/Flex-Home.aspx>.

197. Florida Department of Law Enforcement, *2013 Domestic Security Annual Report*. (Tallahassee, FL, December 31, 2013), <http://www.fdle.state.fl.us/Content/getdoc/e709667e-abcd-4a4a-99f3-a5b50de9d135/2013-DS-Annual-Report-Final.aspx>.

198. Office of the President of the United States, *National Security Strategy* (Washington, DC: The White House, May 2010), http://www.whitehouse.gov/sites/default/files/rss_viewer/national_security_strategy.pdf.

199. "State and Major Urban Area Fusion Centers," Department of Homeland Security, accessed July 30, 2014, <http://www.dhs.gov/state-and-major-urban-area-fusion-centers>.

regional fusion centers spread around the state. The FFC is Florida's "primary fusion center for the gathering, processing, analysis, and dissemination of terrorism, law enforcement, and homeland security information."²⁰⁰

DHS further states fusion centers, "provide interdisciplinary expertise and situational awareness to inform decision-making...they conduct analysis and facilitate information sharing..."²⁰¹ Fusion centers provide these services by employing an array of trained intelligence analysts who are subject matter experts (SME) in specific topics. The FFC employs approximately 35 FDLE sworn agents and intelligence analysts assigned full-time to the FFC. This number includes ten analysts assigned to the 24-hour watch center. Also participating with the FFC are part-time analysts or liaisons from other member agencies.

OALE is a partner agency with the FFC and has an MOU on record for information exchange as well as a position assigned to the FFC in a liaison role. However, this role does not provide an intelligence or analytic capability. There is no food and agriculture sector SME assigned to the FFC. The FFC does have access to agriculture expertise if needed via avenues such as the OALE liaison. However, there is no day-to-day agriculture SME in the FFC examining information and intelligence from this perspective. Every Wednesday of each week an Interagency Fusion Liaison meeting is held at the FFC, where most of the partner agencies participate in exchange of information regarding current intelligence and cases. OALE does not have representation at this meeting. The agriculture sector focused expertise found in the FFC could be described as limited.

Multiple information sharing programs are used around the state. Every law enforcement agency has access to at least one of these platforms. OALE criminal investigators use R-LEX, and a pilot program is in testing at this time using SmartCOP. At the state level, the FLEX project links and interconnects all of these disparate information-sharing platforms allowing cross dissemination of data across all regions and

200. "Florida Fusion Center," Florida Department of Law Enforcement, accessed July 15, 2014, <http://www.fdle.state.fl.us/content/florida-fusion-center/menu/fusion-home.aspx>.

201. "State and Major Urban Area Fusion Centers," Department of Homeland Security.

partner agencies. Sharepoint, through the FFC, is not as readily accessible and is used for specific homeland security and intelligence purposes. Despite this access to and use of information sharing programs, OALE does not have trained criminal analysts and has no in-house agency intelligence component.

The Florida Domestic Security Strategic Plan specifically addresses intelligence and information sharing with the agriculture industry in Objective 3.2 – Food and Agriculture Safety and Defense, Step 3, as follows:

Step 3: Coordinate and/or integrate federal, state, regional and agency food and agriculture alert, notification and information sharing processes to ensure that information about current vulnerabilities and threats is accessible to federal, state, regional and local government stakeholders. Mechanisms should also be established to enable the timely sharing of key information with private sector partners.²⁰²

However, according to subject matter experts, there is no known connection point between anyone in the regulatory bureaus of DAI and DFS and the fusion centers. There is also no information exchange with the SART group and the fusion centers.

Joint Terrorism Task Forces, run and led by the FBI, are multijurisdictional and multiagency partnerships focusing on terrorism investigations, issues, threats, and suspects.²⁰³ Florida is home to six JTTFs. Three of the groups are run out of the three FBI field offices, Jacksonville, Miami, and Tampa, and three are run out of sub-region offices in Orlando, Pensacola, and West Palm Beach.²⁰⁴ Of the six task forces, the South Florida JTTF is in the largest of the states urban areas, Miami.

The South Florida JTTF, as described by the FBI Miami Division, “brings together representatives of local, state, and federal agencies to run down any and all terrorism leads, develop and investigate cases, provide support for special events, and

202. Florida Department of Law Enforcement. Domestic Security Oversight Council, *Florida Domestic Security Strategic Plan 2012 - 2014*, 14.

203. “Fusion Centers and Joint Terrorism Task Forces,” Department of Homeland Security, accessed July 30, 2014, <http://www.dhs.gov/fusion-centers-and-joint-terrorism-task-forces>.

204. Dana Priest and William M. Arkin, “Top Secret America.A Washington Post Investigation,” *The Washington Post* (September 2010), <http://projects.washingtonpost.com/top-secret-america/states/florida/>.

proactively identify threats that may impact the area and the nation.”²⁰⁵ The South Florida JTTF, based in Miami, is comprised of multiple partner agencies including, “U.S. Homeland Security Investigations, the U.S. Coast Guard, the Florida Department of Law Enforcement, Florida Highway Patrol, Palm Beach Sheriff’s Office, Palm Beach County Fire Rescue, and many other local law-enforcement agencies.”²⁰⁶ OALE is not a member of any of the State’s JTTFs.

The FACIU is a non-profit organization comprised of sworn members who specialize in agriculture crimes from thirty-six different law enforcement agencies in Florida, including federal, state, and county.²⁰⁷ This unit has existed since the late 1970s with the purpose of, “sharing information on crimes affecting the agricultural communities.”²⁰⁸ The unit “specializes in gathering and sharing information on a variety of state wide crimes related to the agricultural field.”²⁰⁹ In an interview, FACIU member Sgt. Bill Bevis was quoted as saying, “communication is the key to preventing and solving crimes.”²¹⁰ In the same news article, past president of the FACIU Fred Tagtmeier noted sharing information is vital to success.²¹¹

In addition to the thirty-six law enforcement agency members, the FACIU is also partnered with the FBI, the USDA, the FDACS, and private industry stakeholders such as Ben Hill Griffin and Lykes Ranch. The FACIU has an active information and intelligence distribution network via email to all members as well as a restricted access website for registered members through the FFC.²¹² A recent FACIU email finds 191 member

205. “FBI Miami Division,” Federal Bureau of Investigation, accessed July 30, 2014, <http://www.fbi.gov/miami/about-us/our-partnerships/partners>.

206. John Lantigua, “Terrorism Task Force Meshes Agencies,” *Palm Beach Post*, May 8, 2013, <http://www.heraldtribune.com/article/20130508/ARCHIVES/305081065>.

207. “News Release - FACIU Training.”

208. “Hendry County Sheriff’s Office Sergeant Heading up State Ag Intelligence Unit,” *NewsZap*, July 27, 2013, <http://florida.newszap.com/labelle/123586-113/hendry-county-sheriffs-office-sergeant-heading-up-state-ag-intelligence-unit>.

209. “His Beat Is Agriculture Crimes,” *Florida Citrus Mutual*, July 25, 2011, http://irchlb.org/news/highlandstoday_agdeputy_072511.aspx.

210. Ann O’Phelan, “Agricultural Crime Fighters,” *Tampa Tribune - Highlands Today*, December 28, 2011, <http://highlandstoday.com/business/agri-leader/2011/dec/28/lrnewso1-agricultural-crime-fighters-ar-340782/>.

211. *Ibid.*

212. “Hendry County Sheriff’s Office Sergeant Heading up State Ag Intelligence Unit.”

recipients on the distribution list.²¹³ A review of emails sent from the FACIU over the period of January 1, 2014, to September 1, 2014, finds 176 emails total. Of this number, sixty-two could be described as intelligence related and were primarily focused on agriculture crimes and thefts, legal updates, and other, similar, information of interest to agriculture crimes professionals. The remaining 114 emails could be described as general information and emails related to FACIU association business.²¹⁴

In addition to the website and email distributions the FACIU holds regular meetings throughout the year and a yearly annual training conference. The recorded minutes were reviewed for meetings dated February 20, 2014,²¹⁵ April 17, 2014,²¹⁶ and August 21, 2014.²¹⁷ Approximately thirty FACIU members attended each meeting and each meeting included an intelligence sharing session. The minutes reflect that the intelligence topics shared at these meetings were all agriculture crime related. The FACIU held its annual training seminar this year, May 12 through May 15. A review of the agenda found topics focusing on livestock, sovereign citizens, navigation, and agriculture related crime.²¹⁸

H. AGROTERRORISM TRAINING

The need for agroterrorism specific training for law enforcement and industry stakeholders was identified in NIJ212280. Law Enforcement in Florida receives training via four different avenues. Those avenues are through the Basic Recruit Training Program, state required mandatory retraining, state offered advanced training, and then by other means such as outside training provided by specific agencies or acquired by officers through other venues. The Florida Department of Law Enforcement (FDLE) sets the standards for required training for all sworn law enforcement in the state through the Criminal Justice Standards and Training Commission (CJSTC).

213. Brenda White, "Gilchrist County Sheriff's Office," Email message to FACIU group, September 8, 2014.

214. "FACIU Compendium," 2014.

215. Brenda White, "FACIU Meeting Minutes February 20," Email message to FACIU group, March 23, 2014.

216. Ibid., Ibid., April 18, 2014.

217. Ibid., Ibid., September 3, 2014.

218. Ibid., April 9, 2014.

The Basic Recruit Training Program is the primary means of training Florida law enforcement officers, serving as the “Police Academy” for new, prospective officers. The twenty-week, 770-hour training program covers all of the topics the CJSTC has determined new officers need in order to begin operating as sworn officer. A review of the 301-page Florida CMS Law Enforcement Basic Recruit Training Program Instructor Guide finds no training related to agroterrorism, nor indeed any reference to terrorism.²¹⁹

The CJSTC sets periodic mandatory retraining for all certified sworn officers required to maintain certification.²²⁰ A review of the Florida Officer Mandatory Retraining Requirements training matrix document finds nine training courses; none of which are related to agroterrorism.²²¹ CJSTC also provides optional advanced training throughout the year at training centers around the state. A review of the CJSTC Advanced Training Courses webpage finds forty-five offerings of 40-hour to 80-hour advanced training courses; none of which are related to agroterrorism.²²²

Of the four avenues in which Florida law enforcement receive training, three do not include or offer any agroterrorism training. The fourth avenue, outside training, is more difficult to quantify. There are, however, some common sources for this type of training, such as Northwestern University and FEMA. The Northwestern University Center for Public Safety is a well-established national police-training provider offering courses throughout the country. A search through the Center for Public training webpage

219. “Florida CMS Law Enforcement Basic Recruit Training Program,” Florida Department of Law Enforcement. Criminal Justice Standards and Training Commission, July 1, 2012), http://www.fdle.state.fl.us/Content/getdoc/5b95cf86-1270-463c-89e3-05158a71054b/2013_LE_IG.aspx.

220. “FDLE Officer Requirements,” Florida Department of Law Enforcement, accessed July 13, 2014, <http://www.fdle.state.fl.us/Content/getdoc/6bb26b62-3505-489d-93da-0185650c4017/Mandatory-Retraining-requirements.aspx>.

221. “CJSTC Florida Officer Mandatory Retraining Requirements,” Florida Department of Law Enforcement, accessed July 13, 2014, <https://www.fdle.state.fl.us/Content/getdoc/08b74938-6e0c-4ce4-9bb0-13e8a57aa5fb/08RetrainingMatrix081308.aspx>.

222. “CJSTC Advanced Training Courses,” Florida Department of Law Enforcement, accessed July 13, 2014, <http://www.fdle.state.fl.us/Content/getdoc/57903542-8038-4c82-9019-940c1dbcee09/CJSTC-Advanced-Training-Courses.aspx>.

for all courses offered for management, police training and all online courses resulted in no agroterrorism related offerings.²²³

FEMA's National Preparedness Directorate offers a wide range of training courses by the hundreds to first responders, emergency management, and law enforcement. The FEMA online course catalog offers numerous courses topically related to agroterrorism. These courses include *Terrorism*, *Terrorism Intelligence Analysis*, *Terrorism Awareness and Subversive Behavior Awareness*, *WMD/Hazmat*, *Animals in Disaster*, and *Livestock in Disaster*, as well as the numerous courses teaching NIMS and ICS.²²⁴ However, while these courses are topically related and do cross issues related to agroterrorism, they are more ancillary in nature to the agroterrorism training issue. These are not agroterrorism specific training courses. A review of the FEMA Center for Domestic Preparedness course catalog also found no related training.²²⁵

The University of California–Davis Western Institute for Food Safety and Security (WIFSS) is perhaps not a common venue for law enforcement training, however in recent years, WIFSS has developed a catalog of DHS certified agroterrorism courses for law enforcement and other first responders.²²⁶ These courses include AWR151 *Understanding the Dangers of Agroterrorism*, AWR152 *Principles of Preparedness for Agroterrorism and Food Systems Disasters*, AWR153 *Principles of Detection and Diagnosis*, AWR154 *Principles of National Incident Management System*, AWR155 *Principles of Frontline Response to Agroterrorism*, and AWR156 *Principles of Planning and Implementing Recovery*.²²⁷ In Florida these courses are offered and taught by Grant

223. "Course Search," Northwestern University: Center for Public Safety, accessed July 13, 2014, <https://registration.nucps.northwestern.edu/search.cfm?CFID=5158154&CFTOKEN=13430ddd48a90de2-E8B5B0FA-F656-1A47-0A31C73EFECD00F2>.

224. "National Preparedness Directorate Online Course Catalog," Federal Emergency Management Agency, accessed July 13, 2014, <http://occ.training.fema.gov/occ/>.

225. "Training by Discipline | Center for Domestic Preparedness," Federal Emergency Management Agency, accessed July 13, 2014, <https://cdp.dhs.gov/training/discipline/>.

226. "Current Offerings," Western Institute for Food Safety and Security, accessed July 13, 2014, http://www.wifss.ucdavis.edu/?page_id=632.

227. "Agroterrorism Courses," Western Institute for Food Safety & Security, accessed August 4, 2014, http://www.wifss.ucdavis.edu/?page_id=6569.

Partners Inc.²²⁸ Full course description summaries for these training classes may be reviewed in Appendix C.

The WIFSS AWR courses began being offered in 2008 in Florida.²²⁹ From 2008 to 2011 seventy-two courses were delivered to 1,298 students. Of this number, 183 were sworn law enforcement members. Seventy-six of the students were from nineteen different sheriff's offices and sixty were from four different state law enforcement agencies. Forty-nine were from OALE. Data was not available for AWR courses delivered in Florida since 2012. However, no course offerings could be found within the last two years and there are no current AWR course offerings found in Florida.²³⁰

The University of Florida is currently in the process of designing a livestock course specifically for law enforcement engaged in agricultural enforcement. The course, Livestock Education and Certification for Agriculture Law Enforcement (LECALE), is still in the early testing stages. A review of the program pilot agenda finds a four-day program focused on the livestock industry with sections such as Animal Husbandry, Equine Behavior, Body Condition Scores for Cattle and Equine, and Beef and Equine Teaching Unit Labs. The course appears to be a comprehensive education on livestock for law enforcement. There is no heading for criminal activities, terrorism, or agroterrorism, however there is a one-hour block on Extremism and Activism.²³¹

228. "Training," Grant Partners Inc, accessed August 4, 2014, <http://grantpartnersinc.org/training/>.

229. John Terry, "Agroterrorism Data," Email to author, September 22, 2014.

230. Ibid.

231. Matt Hersom, "Livestock Education and Certification for Agriculture Law Enforcement Program," Email to Keith Klopfer, July 11, 2014.

V. GAP ANALYSIS

In the Florida Assessment chapter, the entities and programs in Florida having a role in defending against agroterrorism were identified. Next, these programs were analyzed in the context of the questions identified in NIJ212280 as to law enforcement's role in defending against agroterrorism to determine Florida's current capabilities. In this chapter, Florida's current capabilities are analyzed against the NIJ212280 recommended capabilities in order to identify where the gaps exist in Florida's agroterrorism defense efforts. The gaps analysis was conducted under the two primary categories of law enforcement's duties and responsibilities in agroterrorism, prevention and response, as specified in NIJ212280.²³² Gaps were identified in training, which overlaps both prevention and response, so training was addressed separately.

A. PREVENTION GAPS

Law enforcement's agroterrorism prevention responsibilities, as specified in NIJ212280, included identifying threats to the agriculture industry, vulnerability assessments, interfacing with industry stakeholders including animal health, intelligence and information sharing, smuggled food interdiction, and establishing a community policing model such as Agro-Guard in the agriculture community. Components that were evaluated in Florida with potential prevention responsibilities included FDACS, DAI, DFS, SART, OALE, and the RDSTFs. On the intelligence and information sharing side the FFC, FACIU, and OALE were examined.

1. Agriculture Community Policing

Florida does not have an established agriculture community-policing program in the vein of the Agro-Guard program described in NIJ212280. However, government outreach to the agriculture community does occur in Florida, primarily via the SART group. The core group of SART members employed full-time to focus on the SART group and its functions and missions are primarily FDACS employees with DAI. The

232. Knowles et al., *Defining Law Enforcement's Role in Protecting American Agriculture from Agroterrorism*.

SART oversight board and SART teams are comprised of other government, animal health, education, and other related industry professionals. SART exists to reach out to the agriculture community with a focus on preparing for responding to agriculture related disasters.

While SART potentially offers a vehicle for meeting the goals described in NIJ212280, the big piece that is missing from SART's outreach is the law enforcement component. This is a gap in comparison with the NIJ212280 model that envisioned a type of neighborhood watch for agriculture with a focus on prevention and information sharing and serving as conduit linking law enforcement with the agriculture community. The NIJ model includes law enforcement engaging with agriculture industry community members and stakeholders in an education campaign informing them on the threats to agriculture and encouraging the reporting of suspicious activity. In Florida, the primary law enforcement entities found in the local agriculture communities are the county sheriff's offices.

It is difficult if not impossible to gauge the outreach of local sheriff's office's specific to the agriculture community in their counties of jurisdiction. This could be the subject of another entire thesis and would require extensive polling and surveying of Florida's 67 county sheriffs. However, the assessment of the FACIU found an element of community policing, despite their mission focus on information and intelligence sharing, and the FACIU membership is comprised primarily of county sheriffs office members. In fact twenty-nine of Florida's sixty-seven county sheriff's offices are represented on the FACIU.

Further evidence of the FACIU's engagement with the community was found in interviews. In a 2011 interview, past FACIU president Deputy Fred Tagtmeier was quoted as saying, "I feel like I'm a liaison person between the agricultural community and the sheriff's office. You're out there shaking hands and getting to know people, they are more comfortable with you...they open up...once you've met somebody it is easier to

talk to them.”²³³ Tagtmeier said he spends up to half of his time networking with people who can help him solve agriculture crimes.²³⁴

While Florida does not have the agriculture community-policing program envisioned in the NIJ212280 the mechanisms appear to be in place with the SART group and FACIU organization to achieve this capability. There is a gap in this capability, however there is not a total lack of agriculture community engagement. Many of the aspects found in SART and the FACIU mirror the goals for the AgroGuard program as outlined in the NIJ study. The primary pieces missing are the lack of a focused effort under the banner of “agriculture community policing” and lack of a direct information gateway for the public. The authors of the NIJ study achieved this with AgroGuard community meetings and the AgroGuard signs placed throughout the communities with phone numbers to call with any information.

2. Threat Identification and Vulnerability Assessments

The State of Florida enjoys a detailed and comprehensive strategy for evaluating and enhancing critical infrastructure via the Domestic Security Strategic Plan. The plan also specifies a strategy for safety and defense, specifically of the food and agriculture sector. The Critical Infrastructure Program under the RDSTFs works to implement this strategy. From the literature review, authors Parker, Kohnen, and Chalk all discuss the need for threat and risk assessments for agricultural bioterrorism. However, while Florida has a strategy and framework in place focused on critical infrastructure, the research sought to confirm data indicating there has been little attention on the food and agriculture sector. As noted in the assessment chapter, specific data is unavailable.

In the absence of hard data, the presumption is that there has been little focus on food and agriculture sector critical infrastructure assessments. This presumption is not a criticism of the Critical Infrastructure Program’s effectiveness. The program does not set the agenda for the focus on critical infrastructure. The agenda comes from direction from the RDSTFs on what the priorities are for critical infrastructure and from feedback and

233. “His Beat Is Agriculture Crimes.”

234. Ibid.

information from critical infrastructure partners in the state. The gap in this capability has been lack of prioritizing agriculture as a critical infrastructure focus from the strategic level as well as lack of feedback or contact from the agriculture industry articulating needs. The policy level direction and focus on agriculture exists as found in the DSSP.

In a recent article in the George Mason University publication, *The CIP Report*, former Florida statewide critical infrastructure planner Sylvia Ifft wrote, “Since the mindset has shifted over the years from examining critical infrastructure at a capacity level to a consequence scenario, planners can focus on the drivers of their state’s economy and the needs of the population to identify and categorize critical infrastructure assets.”²³⁵ This quote captures the significance of the lack of focus on agriculture as a critical infrastructure in Florida. As outlined in the Florida Assessment chapter, agriculture is of tremendous economic importance to the state’s economy and population. There has been a gap in including agriculture in assessing Florida’s critical infrastructure vulnerabilities.

The critical infrastructure planner positions are currently in process of phasing out, with those duties shifting onto the RDSTF planners, who will be assuming the critical infrastructure role in addition to their regional planning duties. There is no projection as to how this will affect the Critical Infrastructure Program, however the great likelihood is this will have a detrimental effect.

3. Intelligence and Information Sharing

In Florida, the primary means for collecting, disseminating and sharing criminal and domestic security information is via the state’s seven Fusion Centers with the Tallahassee based Florida Fusion Center as the primary hub. Analysts at the FFC receive on average about fifty to seventy-five intelligence products each month from outside sources to be analyzed, not including the reports they generate. The FFC has limited agriculture sector analysis capabilities and no agriculture sector SME assigned in the FFC. This is a gap in this capability.

235. Ifft, “Florida’s Critical Infrastructure Protection Program,” 20.

FDACS is in a prime position to collect agriculture information and intelligence with its regulatory bureaus in the field such as DAI and DFS and its law enforcement branch OALE. However, despite the specific strategic goals concerning information exchange with the food and agriculture sector as outlined in the Domestic Security Strategic Plan, there is no known connection point between anyone in these FDACS regulatory bureaus and the fusion centers. The SART group also has no information exchange with the fusion centers. Some OALE law enforcement members are linked to the fusion centers, and OALE has an agency liaison linked with the FFC, however, OALE does not participate in the Interagency Fusion Liaison meetings. Finally, while the FFC is able to connect with agriculture subject matter experts via the OALE liaison, there is no agriculture sector SME assigned to the FFC conducting regular intelligence analysis. These are gaps in Florida's information and intelligence gathering and sharing capabilities.

Development of information and intelligence was an important theme found throughout the NIJ212280. The authors of the study are not alone in stressing this theme. From the literature review, authors Monke and Chalk both discuss the need for agriculture focused intelligence collection and sharing information between law enforcement and the intelligence community. Dr. David L. Carter is a long-time proponent of intelligence led policing and encourages individual law enforcement agencies to have a dedicated intelligence unit. Dr. Carter wrote in the FBI Law Enforcement Bulletin:

Those without such units need to develop some type of intelligence capacity, even if it consists of only one person trained to understand the language, processes, and products available. This person can serve as the department's intelligence contact point, as well as the conduit to disseminate information to those who need it.²³⁶

236. David L. Carter, "The Law Enforcement Intelligence Function: State, Local, and Tribal Agencies," *FBI Law Enforcement Bulletin* 74, no. 6 (June 2005): 1.

OALE does not have any agency criminal analytical or intelligence component and this is a tremendous gap in OALE's ability as Florida's preeminent agriculture law enforcement entity to defend the state's agriculture.

A primary focus of the information and intelligence sharing discussion has revolved around the fusion centers as Florida's primary means for dissemination of information. However, there are criticisms of the fusion center concept. The 2008 Congressional Research Service Report for Congress, *Fusion Centers: Issues And Options For Congress*, found that, "While many of the centers have prevention of attacks as a high priority, little "true fusion," or analysis of disparate data sources, identification of intelligence gaps, and pro-active collection of intelligence against those gaps which could contribute to prevention is occurring."²³⁷ The 2012 Senate Investigations Subcommittee findings, *Federal Support For And Involvement With State And Local Fusion Centers*, is a scathing report on the nation's fusion centers. The report notes, "The Subcommittee investigation found that DHS-assigned detailees to the fusion centers forwarded 'intelligence' of uneven quality – oftentimes shoddy, rarely timely..²³⁸ The report refers to a 2010 assessment that found, "widespread deficiencies in the centers' basic counterterrorism information-sharing capabilities."²³⁹

Fortunately, the feedback on fusion centers is not all bad. The House report referred to previously, noted many strengths in the fusion centers, finding the network to be a valuable national asset.²⁴⁰ The 2008 CRS report stated, "The value proposition for fusion centers is that by integrating various streams of information and intelligence, including that flowing from the federal government, state, local, and tribal governments,

237. John Rollins, *Fusion Centers: Issues and Options for Congress*, Washington, DC: Congressional Research Service, 2008, Summary, <http://oai.dtic.mil/oai/oai?verb=getRecord&metadataPrefix=html&identifier=ADA482006>.

238. Carl Levin and Tom Coburn, *Federal Support For And Involvement In State and Local Fusion Centers* (Washington, DC: United States Senate. Permanent Subcommittee On Investigations, October 3, 2012), 1, <http://www.ncjrs.gov/App/abstractdb/AbstractDBDetails.aspx?id=16220>.

239. *Ibid.*, 2.

240. Michael T. McCaul and Peter T. King, *Majority Staff Report On The National Network Of Fusion Centers* (Washington, DC: United States House of Representatives Committee on Homeland Security, July 2013), <http://homeland.house.gov/sites/homeland.house.gov/files/documents/CHS%20SLFC%20Report%202013%20FINAL.pdf>.

as well as the private sector, a more accurate picture of risks...can be developed and translated into protective action.”²⁴¹

The JTTFs and FACIU are two multiagency partnerships having a nexus with agroterrorism in the State of Florida. Florida is home to six JTTFs and OALE does not have a presence on any of them. These task forces focus on terrorism investigations, issues, threats, and suspects having a clear nexus to agroterrorism and very likely do not have any link to the agriculture community nor any agriculture subject matter expert member. The JTTFs are also conduits for the flow of terrorism related information and intelligence. The lack of OALE participation in the JTTF is a gap.

Analysis of the FACIU found the organization to be a tremendous agriculture focused information and intelligence sharing asset to the state. The FACIU is comprised of agriculture unit deputies from most of the sheriffs offices located in the heavily agriculture producing counties in the state, all of the OALE sworn investigators, other state agencies such as FWC and FDLE, the FBI, USDA, FDACS, as well as private sector members from the agriculture industry. The FACIU is active in collecting and disseminating agriculture specific information and intelligence via its website and email distribution list, regular association meetings, and annual conferences.

Before delving into analysis of the data collected on the FACIU it is important to note the limitations of the data. The amount of data available for analysis was very limited due to access restrictions to the FACIU website. Due to the website unavailability, the research was restricted to a little less than one year’s worth of emails, meeting minutes, and one annual conference. Review and analysis of emails, meeting minutes, and yearly conference agenda found no inclusion of agroterrorism as a topic or focus for the FACIU. agroterrorism as a topic may have been found, had access to more data been available. However, all indications from analyzing the FACIU leave little doubt that if any information concerning agroterrorism were to reach the organization they would push it out. The FACIU is highly engaged with their membership and highly active in sharing information specific to their mission, which is agriculture crime. The

241. Rollins, *Fusion Centers*, Summary.

FACIU has not focused on the issue of agroterrorism because it has not been a topic of concern in their communities of interest. However, the FACIU could benefit from outreach and education on the topic of agroterrorism to broaden their field of vision into agriculture threats and enhance Florida's defense network.

4. Smuggled Food Interdiction

NIJ212280 recommended the SFIT concept with combined food regulatory and law enforcement personnel working in teams to seek out illegal food products. This model does not exist in Florida, but that does not necessarily mean that a gap exists. The reasoning behind the NIJ report concept is valid. Illegal food products are a threat not only to unknowing consumers, but also to the agriculture industry. This is one of the lessons learned from the UK experience with FMD. Illegally imported meat products contaminated with the FMD virus and used in animal feed fed to swine caused the 2001 FMD outbreak in Great Britain, one of the largest and costliest in world history.²⁴²

In Florida, food safety regulation and inspection functions are conducted by DFS civilian inspectors, who are assisted as needed by sworn OALE personnel. OALE Interdiction Stations provide the first layer of protection. What the State of Kansas may have lacked in capability, requiring the creation of the SFIT concept from the NIJ report, was the large food safety regulation system with sworn law enforcement support, as provided by the FDACS in Florida. The statistical data and law enforcement reports found and examined in the Florida assessment section indicate the existing strategy in place achieves and exceeds the desired capability as outlined in NIJ212280 with the SFIT team's recommendation. There is no gap found in this capability for Florida.

242. Iain Anderson, Foot and Mouth Disease 2001: Lessons to Be Learned Inquiry Report (London: House of Commons, July 22, 2002), http://www.epcollege.com/EPC/media/MediaLibrary/Knowledge%20Hub%20Documents/F%20Inquiry%20Reports/Anderson-FMD-Review_Part1.pdf?ext=.pdf.

B. GAPS IN RESPONSE-RELATED ACTIVITIES

Law enforcement's agroterrorism response responsibilities, as specified in NIJ212280, included implementing response plans and NIMS, crime scene and evidence management, enforcement of quarantines and stop movement orders, criminal investigation, and conflict resolution. Components that were evaluated in Florida with potential response responsibilities included FDACS, DAI, DFS, SART, and OALE. Aspects that were examined included agency responsibilities, statutory authorities, response and operating plans, associated response and operating plans, as well as historical response experiences and data.

1. Foreign Animal Disease Response

If all prevention efforts fail and an FAD outbreak occurs, there will be a response to contain and eradicate the disease spread, as well as investigate any criminality involved. NIJ212280 recommended deployment of a Rapid Response Team comprised of animal health and law enforcement officials in order to address the animal health and outbreak elements, as well as manage crime scene, evidence, and criminal investigation if needed. Florida State Statutes amply address FDACS and DAI roles, responsibilities and direct authority over an animal disease event. Statutory authorities are also established and clear, covering OALE's role in providing law enforcement support to any FDACS responsibility or action. The FAD-ERP plan is a comprehensive FDACS plan for responding to agriculture disaster events. Florida has well-tested and proven protocols for standing up resources in the event of any declared state emergency, and for implementing plans and deploying specialty teams to most types of emergency events, including agriculture related disasters. NIMS and ICS protocols are included in every plan.

The FAD-ERP plan did not refer specifically to agroterrorism events, however this is not necessarily a gap. As found and noted in the literature review, agriculture disease outbreak and disaster scenarios tend to replicate naturally occurring events of the same type. This is because the diseases used as weapons in an agroterror attack are the same as those diseases that cause natural disasters. From the animal health aspect, the response to an animal disease outbreak is the same whether it is natural or intentional.

The difference between a natural or intentional event is the criminal investigation element. The problem is the point at which the outbreak is found to have been intentionally initiated, whether by an admission or by evidence found, and law enforcement then beginning a criminal investigation. This could occur weeks, months, or years after the event.

There are many real world examples of disasters and outbreaks from the food and agriculture sector in which a criminal investigation came into play long after the initial response. The only proven Bioterror attack perpetrated on U.S. soil was the Rajneeshee cult poisoning of restaurant salad bars with salmonella in Oregon in 1984. The purpose of the attacks was to aid the cult in taking over the county government in the elections at that time, making the attack an act of terrorism. The poisonings were not attributed to the Rajneeshees, and there was no criminal investigation until well over a year later, when internal conflicts in the cult led to the outing of certain members involved.²⁴³

In the 1980s a preferred method for controlling crop pests was spraying the pesticide malathion, which was a practice of some public debate and consternation at the time.²⁴⁴ In March of 1989, a large Mediterranean fruit fly (MedFly) outbreak was discovered in California's crop fields, posing a significant threat to the state's \$40 billion agriculture industry. Nine months later, a group calling themselves The Breeders posted a letter claiming responsibility for intentionally releasing the MedFly with the goal of creating an infestation so unmanageable that the state would cease their pesticide spraying efforts. At this time, the FBI began investigating The Breeders and the MedFly outbreaks, although no members of the group or evidence was ever found.²⁴⁵

Other examples include the 1995 Taiwan FMD outbreak, Florida's battle with citrus canker, and the 1999 West Nile virus outbreak in New York. The Taiwan outbreak was thought by some to be an intentional act of terrorism perpetrated by China, though

243. Les Zaltz, "25 Years after Rajneeshee Commune Collapsed, Truth Spills out — Part 1 of 5," *The Oregonian*, April 14, 2011, http://www.oregonlive.com/rajneesh/index.ssf/2011/04/part_one_it_was_worse_than_we.html.

244. Clyde Haberman, "The Battle Over the Medfly," *The New York Times*, March 16, 2014, <http://www.nytimes.com/2014/03/17/us/the-battle-over-the-medfly.html>.

245. Ashley Dunn, "Officials Advertise to Contact Mystery Group Claiming Medfly Releases," *Los Angeles Times*, February 10, 1990, http://articles.latimes.com/1990-02-10/local/me-169_1_mysterious-group.

this was never proven.²⁴⁶ Florida has combatted canker disease outbreaks in the citrus crop off and on for over one hundred years, including a new outbreak beginning in 1995. In 1996, the CIA began investigating a claim that the new canker outbreak was an intentional attack from Fidel Castro's Cuban bioweapons program.²⁴⁷ An article search for "1999 West Nile terrorist attack" finds multiple references for what many considered a bioterrorism attack on New York City. No evidence was found and perhaps no investigation was even conducted. What these examples illustrate is the need for a criminal investigative component from the outset of a response to any large-scale food and agriculture sector related outbreak. The evidence or information that an outbreak was a criminal or terrorist act could come long after the response, if it comes to light at all.

These examples and this weak link in the typical response to an agriculture or animal disease outbreak are why the NIJ212280 recommended the establishment of RRT's with combined animal health and law enforcement investigator members. The report authors recognized that it is neither the role nor the responsibility of the animal health responders to be concerned with rules of crime scenes and evidence collection, preservation, and chain of custody rules. They also recognized animal health professionals are not trained in criminal investigations to ask the specific questions to potential witnesses that may reveal suspicious activities, nor to recognize evidence of such activities. The role of the sworn investigator on the RRT is to be alert to indications of criminal activity and mindful of crime scene and evidence requirements, while the animal health experts are focused on their roles. The NIJ study authors were not alone in seeing the need for animal disease event investigations. From the literature review, Chalk urged for a focus of attention on law enforcement and forensic investigations for determining whether disease outbreaks were deliberate or naturally occurring. The FAD-ERP for animal disease incidents does not include reference to law enforcement other than for use in guarding facilities and enforcing quarantine zones. This is a gap in the FAD-ERP and FDACS response protocols.

246. Parker, *Agricultural Bioterrorism*.

247. Kohnen, "Responding to the Threat of Agroterrorism: Specific Recommendations for the United States Department of Agriculture."

2. Quarantine Enforcement

The ability to establish and enforce quarantines and stop movement orders is stressed in NIJ212280, and with good reason. Effective quarantine enforcement is one of the lessons learned from the British experience with FMD. Great Britain offers a unique opportunity for comparison with Florida due to both the similarity of government policies as well as geography. Florida is a peninsula state bordered mostly by water, though abutting two other states, Georgia with its northern land border and Alabama with its northwest land border. In size, Florida is 58,560 square miles, 447 miles long, spans 361 miles at its widest points, and has 1,197 miles of coastline.²⁴⁸ England is the largest country in Great Britain, which is the largest of the islands comprising the United Kingdom. As part of an island, England is primarily bordered by water, however Wales borders to the west and Scotland to the north. England is 50,337 square miles, 622 miles long, spans 311 miles at its widest points, and has 4,920 miles of coastline.²⁴⁹

Prior to 2001, the United Kingdom's FMD policy did not exist. Then, in 2001 the United Kingdom was hit, unprepared, with a FMD outbreak. On February 19th, veterinarians were alerted to the first signs of sick animals. Over eight months later, 6.2 million animals had been destroyed at a cost of \$8 billion pounds.²⁵⁰ Other estimates of the total final costs range from \$6 billion to \$20 billion. Figure 7 depicts FMD infected premises in Great Britain subsequent to this outbreak (as taken from the Royal Geographic Society).

248. "Facts About Florida," State of Florida, accessed August 17, 2014, <http://www.stateofflorida.com/Portal/DesktopDefault.aspx?tabid=95>.

249. "United Kingdom Country Overview Location and Size," Encyclopedia of Nations, accessed August 17, 2014, <http://www.nationsencyclopedia.com/economies/Europe/United-Kingdom.html>.

250. Anderson, *Foot and Mouth Disease 2001: Lessons to Be Learned Inquiry Report*.

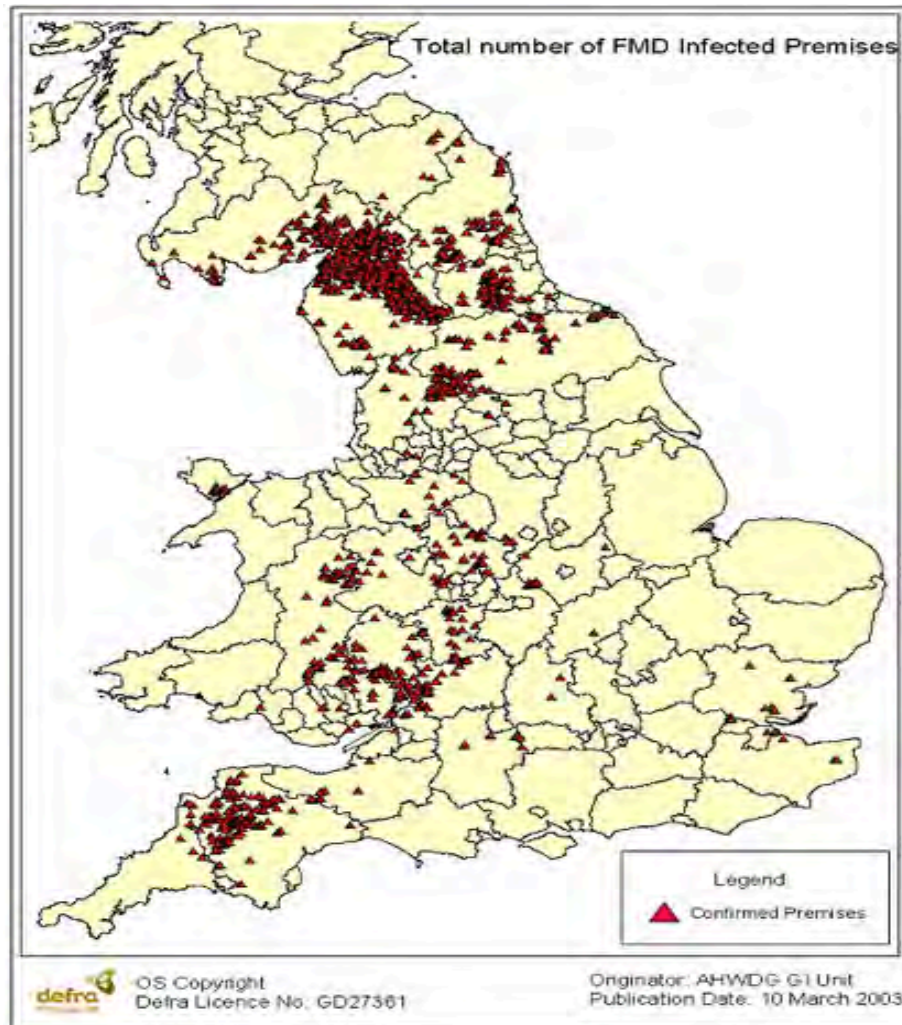


Figure 7. Total Infected Premises²⁵¹

Scientific journal review papers *The UK foot-and-mouth disease outbreak – the aftermath*²⁵² and *Foot-and-mouth disease in the UK: What should we do next time?*²⁵³ both analyzed the response to the 2001 event and agreed on several lessons learned. One of these lessons was that rapid and decisive intervention at the onset of an outbreak was imperative, including immediate nationwide stoppages on movement of animals. The

251. “Jessica Sellick Answers Questions on Foot and Mouth Disease (FMD) and the Impact of the Recession in the Countryside,” *Royal Geographical Society*, 2010, <http://www.rgs.org/OurWork/Schools/Geography+in+the+News/Ask+the+experts/Foot+and+Mouth+Disease+%28FMD%29.htm>.

252. Daniel T Haydon, Rowland R Kao, and R. Paul Kitching, “The UK Foot-and-Mouth Disease Outbreak — the Aftermath,” *Nature Reviews Microbiology* 2 (August 2004): 675–81.

253. MEJ Woolhouse, “Foot-and-Mouth Disease in the UK: What Should We Do Next Time?,” *The Society for Applied Microbiology, Journal of Applied Microbiology*, no. 94 (2003): 126S – 130S.

official UK government review of the 2001 outbreak, *Foot and Mouth Disease 2001: Lessons to be Learned Inquiry Report*, was prepared by Dr. Iain Anderson and presented to the House of Commons July 22, 2002.²⁵⁴ Part of Dr. Anderson's many criticisms included lack of disease control policy and very slow and uncoordinated initial response. It was three weeks before a movement stoppage order on animals was put into effect. Figure 8 depicts how the disease spread across Great Britain in two weeks with no movement bans in place (as taken from the BBC article *Foot and Mouth the Key Stats*).²⁵⁵

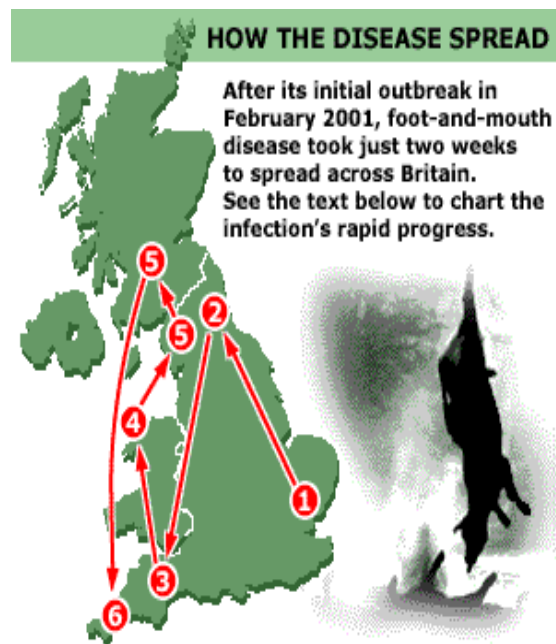


Figure 8. 2001 FMD Outbreak Spread²⁵⁶

Six years later, the UK was hit with the opportunity to test their lessons learned, but this time the UK was armed with a comprehensive FMD response strategy, which is very similar to the U.S. strategy, as found in the USDA's *Red Book*.²⁵⁷ On August 2,

254. Anderson, *Foot and Mouth Disease 2001: Lessons to Be Learned Inquiry Report*.

255. "Foot-and-Mouth: The Key Stats," BBC, February 18, 2002, <http://news.bbc.co.uk/1/hi/uk/1334466.stm>.

256. Ibid.

257. United States Department of Agriculture, *Foot and Mouth Disease Response Ready Reference Guide - Comparing U.S. and U.K. FMD Response Planning* (Washington, DC, August 2013), http://www.aphis.usda.gov/animal_health/emergency_management/downloads/fmd_rrg_usuk_plan.pdf.

2007, a veterinarian was notified of some sick animals at a farm. By the end of the next day, August 3rd, test samples had confirmed FMD, animal movement bans had been enacted, and protection quarantine zones had been established around the outbreak area. Culling of animals began the next day, and vaccination protocols were ready to be implemented five days later. The 2007 outbreak lasted half the length of the 2001 event with only about 2,000 animals destroyed and at a cost of approximately \$200 million.²⁵⁸

Fortunately, Florida's geography and the positioning of OALE interdiction stations provide the state with a unique advantage for effectively closing off entry or exit of agriculture products or animals. Additionally, FDACS and OALE have extensive experience and capabilities in quarantine enforcement. Figure 9 (as taken from the USDA FMD Response Guide) depicts bovine concentrations in the State of Florida. Clearly, the greatest concentrations fall well below the line of interdiction stations where animal movements would pass through. The densest concentrations of livestock are the likeliest outbreak points for an FAD event.

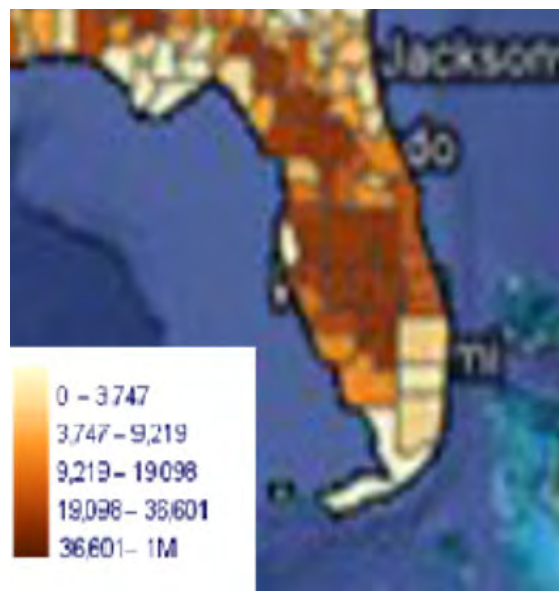


Figure 9. Bovine Population by County²⁵⁹

258. Oklahoma Department of Agriculture, *Food and Forestry, At What Cost? 2001 and 2001 Foot and Mouth Disease Outbreak United Kingdom*, accessed May 15, 2014, <http://www.oda.state.ok.us/ais/atwhatcost.pdf>.

259. United States Department of Agriculture, *FMD Response - Understanding Response Strategies*, 3.

Based on the findings of the Florida Assessment, in the event of most any FAD outbreak scenarios, the OALE interdiction stations would very likely be able to effectively seal off the state to enforce the resulting statewide quarantines and stop movement orders and prevent any susceptible species from leaving. Local enforcement of Infected Zone quarantines could become a more complicated issue, as would the case of an outbreak in the panhandle beyond the security of the interdiction station network. However, even in this type of scenario, FDACS and OALE have extensive history in effectively enforcing local and regional quarantines. No gap exists in this capability.

3. Case Study: Ocala HITS Show

In addition to analyzing policies and plans, the evaluation of actual response events can provide invaluable insight to the efficacy of these documents. Florida's most recent livestock disease outbreak occurred in the winter of 2013 at the Horse Shows in the Sun (HITS) in Ocala. The HITS winter circuit runs for nine weeks and attract 3,500 horses, 7,500 participants, and 10,000 spectators each year. On February 21, 2013, FDACS DAI was notified that a horse in the show was exhibiting clinical neurological signs.²⁶⁰ The horse later tested positive for Equine Herpes Virus Type 1 (EHV-1), which is a common infection in horses than can cause abortion, respiratory and neurological disease. Air, contaminated articles and clothing, and hands spread EHV-1.²⁶¹

EHV-1 is not an FAD and is endemic in the U.S. and thus is treated as a state issue, with USDA not becoming involved unless the disease spreads across state lines. This is an important distinction to understanding the analysis of this event in the correct context. EHV-1 is not included in the diseases commonly associated with a potential agroterrorism event, such as FMD. The potential consequences of EHV-1 do reach the level of an FAD and the level of response is comparatively lower as well. However, this was the most relevant animal disease outbreak available with the closest similarities to an

260. Greg Christy, *Ocala EHV-1 Incident After Action Report, After Action* (Tallahassee, FL: Florida Department of Agriculture and Consumer Services, May 20, 2013).

261. "Equine Herpes Virus Type 1," United States Department of Agriculture, accessed August 7, 2014, http://www.aphis.usda.gov/wps/portal/aphis/ourfocus/animalhealth/sa_animal_disease_information/sa_equine_health/sa_herpes_virus/!ut/p/a0/04_Sj9CPykssy0xPLMnMz0vMAfGjzOK9_D2MDJ0MjDzdgY1dDTz9wtX8LXzMjf09TPQLsh0VAZdihI/.

FAD event for evaluation and some key findings resulted, which contributed value to the thesis.

FDACS DAI responded to the HITS show and activated an IMT on February 28 initiating testing and quarantine protocols. Fifteen premises and over 1,000 horses around the state were quarantined for twenty-one days due to the outbreak. This event was also considered a SART group response, as SART team members were included from the DAI agency response and the SART IMT was used. In the After Action Report comments section, it was noted that the gates to the show grounds had to be manned 24-hours per day in order to enforce the quarantines. For the first two days of the outbreak, the gates were manned by show employees who proved to be unreliable often leaving the gates unattended. Due to these lapses, FDACS personnel were then used to man the gates and OALE sworn personnel were called in to assist.²⁶²

The Ocala EHV-1 outbreak is a case study on how difficult animal containment can be in even a much smaller incident than the FMD outbreaks in the UK. The Ocala Star Banner reported an “exodus” of owners removing hundreds of horses from the HITS show after the first horse was found infected, but prior to the quarantine being established.²⁶³ Some associated with the horse show expressed outrage over the state enacted quarantine. Again, EHV-1 is not an FAD and the proper protocols were followed in the response to this type of outbreak and in the timeframes for establishing the quarantines. However, this event serves as an example for the challenges in establishing and enforcing quarantines. Quarantines can be very unpopular and an uphill battle to enforce. No one wants to be caught inside the zone.

Analysis of the EHV-1 After Action Report reveals two key findings. The first is that the FDACS DAI has effective animal disease reporting and response protocols in place. The disease was quickly reported and a response was rapidly initiated to include standing up an IC and implementing quarantines. Although EHV-1 is not a FAD, review of the incident indicates response was handled in accordance with the Foreign Animal

262. Christy, *Ocala EHV-1 Incident After Action Report*.

263. Carlos Medina, “Equine Herpes Virus Impacts HITS Show,” *Ocala Star Banner*, February 28, 2013, <http://www.ocala.com/article/20130228/articles/130229645>.

Disease Response Plan. The outbreak was effectively contained and resolved. The second key finding is the gap that existed by not having a law enforcement component with the response team from the beginning. No investigation into the outbreak by law enforcement, as recommended in NIJ212280, was noted in the EHV-1 AAR. Use of law enforcement in this exact scenario is identified in the FAD-ERP, however, law enforcement was not included with the initial response team and was requested to respond after issues with quarantine enforcement was identified. The quarantine enforcement issues that were experienced were not due to a gap in capabilities, but instead were due to a gap in strategy and policy, i.e., no law enforcement component intrinsic to the initial response.

4. Law Enforcement Role Ambiguity

Research and analysis into Florida's response capabilities revealed an issue outside the specific context of the seven Florida assessment questions. A consistent gap found in the response analysis has been a lack of specified law enforcement components integrated into response efforts and planning. However, the law enforcement components are available and have the authorities to participate and integrate into these roles. A potential issue with the law enforcement roles exists involving agency responsibilities overlapping in an agroterrorism event. Pursuant to FSS 570.073, OALE is designated having primary responsibility over agriculture related law enforcement and having jurisdiction over laws pertaining to the security and safety of Florida's agriculture. It is reasonable to conclude this jurisdiction would apply to an agroterrorism attack as such an event is agriculture related and involves the security and safety of the industry. However, FDLE has been designated as the lead state agency in all terrorism related issues in Florida by state statute as found in FSS 943.03(14):

The department, with respect to counter-terrorism efforts, responses to acts of terrorism within or affecting this state, and other matters related to the domestic security of Florida as it relates to terrorism, shall coordinate and direct the law enforcement, initial emergency, and other initial responses. The department shall work closely with the Division of Emergency Management, other federal, state, and local law enforcement agencies, fire and rescue agencies, first-responder agencies, and others involved in preparation against acts of terrorism in or affecting this state

and in the response to such acts. The executive director of the department, or another member of the department designated by the director, shall serve as Chief of Domestic Security for the purpose of directing and coordinating such efforts. The department and Chief of Domestic Security shall use the regional domestic security task forces as established in this chapter to assist in such efforts.²⁶⁴

FDLE's lead role designation in terrorism is also noted in many other documents such as the state CEMP and the FERP Annex. This potential issue with two law enforcement agencies with the same roles and responsibilities in the same situation is not a gap so much as it is a point of ambiguity. Whether defined as a "gap" or an "oversight," it should be addressed. Even minor points of ambiguity can become major stressors if left unaddressed until the onset of a large-scale disaster.

Research into law enforcement's statutory responsibilities led into another potential point of ambiguity concerning Florida's statutory definition of "terrorism." Per FSS 775.30 Terrorism; defined:

- (1)(a) Involves a violent act or an act dangerous to human life which is a violation of the criminal laws of this state or of the United States; or
- (b) Involves a violation of s. 815.06; and
- (2) Is intended to:
 - (a) Intimidate, injure, or coerce a civilian population;
 - (b) Influence the policy of a government by intimidation or coercion; or
 - (c) Affect the conduct of government through destruction of property, assassination, murder, kidnapping, or aircraft piracy.²⁶⁵

Many, if not most, potential acts of agroterrorism do not involve a violent act or an act dangerous to human life, so Florida's Terrorism statute would not apply. Florida does not have a specific statute for agroterrorism. This is not necessarily a gap as any act of terrorism or agroterrorism is at its root a crime, so the lack of a specific statute would not

264. "Department of Law Enforcement," F.S.S. Ch. 943.03, accessed August 1, 2014, http://www.leg.state.fl.us/Statutes/index.cfm?App_mode=Display_Statute&Search_String=&URL=Ch0943/SEC03.HTM&Title=-%3E2009-%3ECh0943-%3ESection%2003#0943.03.

265. "Terrorism," F.S.S. Ch. 775.30, 2001, <http://www.flsenate.gov/Laws/Statutes/2011/Chapter775/All>.

preclude the appropriate preparations and response to such an event. Also, in any event that is found to be a terrorist act, the FBI will ultimately respond and assume the lead in the investigation regardless of state laws or definitions.

C. GAPS IN TRAINING

Training is an aspect that straddles both categories of prevention and response and thus was addressed as a separate category. agroterrorism training was not found to be a component of the Florida Basic Recruit Training Program attended by all sworn law enforcement personnel in the state, nor the CJSTC advanced training options. The FEMA National Preparedness Directorate offered courses related to agroterrorism on topics such as Terrorism and Animals in Disaster, however, no agroterrorism specific training. The FEMA certified WIFFS courses were the only agroterrorism training found available to Florida personnel.

The lack of agroterrorism training for basic police academy recruits or CJSTC advanced options does not represent a gap. The purpose of the police academy is to prepare the entry-level law enforcement officer for general policing duties. The CJSTC advanced offerings includes a limited selection of forty-five courses aimed at offering the most needed advanced trainings needed by the widest range of agencies. agroterrorism is a niche topic, and the training is useful to a niche audience within the law enforcement profession.

The WIFFS courses outlined in the Florida Assessment are the best available agroterrorism courses available for law enforcement at this time, and analysis of the content of these courses finds they are adequate to the task. AWR151 *Understanding the Dangers of Agroterrorism*, AWR152 *Principles of Preparedness for Agroterrorism and Food Systems Disasters*, AWR153 *Principles of Detection and Diagnosis*, AWR154 *Principles of National Incident Management System*, AWR155 *Principles of Frontline Response to Agroterrorism*, and AWR156 *Principles of Planning and Implementing Recover*.

According to the FDLE Criminal Justice Profile Report 2010 there are approximately 42,000 sworn law enforcement officers in the State of Florida.²⁶⁶ Of this number, 17,536 are police officers in local jurisdictions, 1,048 serve in schools and ports, 19,229 are sheriff's deputies, and 4,098 are state agency officers. These numbers do not include analysts, clerks, or intelligence positions in agencies that are not sworn positions.²⁶⁷ Not every law enforcement officer needs this training. However, the data revealed comparatively low numbers have received any of the AWR trainings.

Only a total of 183 Florida law enforcement officers out of a total of 42,000 have attended an AWR class. Only seventy-six sheriff's deputies, representing nineteen of the sixty-seven county sheriff's offices have attended an AWR class. Forty-nine of the nearly 250 OALE sworn members have attended an AWR class. The largest state law enforcement entity, the Florida Highway Patrol, was not represented at all on the AWR class rolls. These numbers represent gaps in Florida law enforcement's receipt of agroterrorism training. Any OALE sworn member could be dispatched to an agroterrorism event. Sheriff's offices would be the primary law enforcement responders to an event in their respective county of jurisdiction. The highway patrol could be pressed into service for quarantine enforcements in the event of a large-scale outbreak.

Other training issues include IC position training for specialty teams such as SART, and specialty training for agriculture SME intelligence analysts. The Ocala EHV-1 after-action-report referred to needing specific IC role training for those in the IMT. This training is widely available all over Florida every year and is readily accessible. It is just a matter of identifying the who, the where, and the when and getting it done. In the Prevention Gaps section, the need for agriculture SME intelligence analyst was discussed. This position would require specific training. FDLE offers both a 40-hour *Basic Analyst Training Course* and an advanced six-week *Florida Law Enforcement*

266. Florida Department of Law Enforcement, *Criminal Justice Profile Report 2010*, Tallahassee, FL, accessed August 11, 2014, <http://www.fdle.state.fl.us/Content/getdoc/be775ef3-00a3-4197-966a-92bb9a401419/Statewide-Ratios.aspx>.

267. Ibid.

Analyst Academy.²⁶⁸ This is a nationally recognized program and is mentioned in the NIJ212280. Other FEMA courses would be applicable for this agriculture SME such as those agriculture related courses discussed previously and courses such as PER-259 *Implementation of Effective Sharing of Information and Intelligence Related to the Importation and Transportation of Food*.²⁶⁹

268. "Florida Law Enforcement Analyst Program," Florida Department of Law Enforcement, accessed August 21, 2014, <http://www.fdle.state.fl.us/content/getdoc/586c5070-fac8-44a2-8e53-661bef41b425/Analyst-Home.aspx>.

269. "Implementation of Effective Sharing of Information and Intelligence Related to the Importation and Transportation of Food," University of Tennessee. Center for Agriculture and Food Security and Preparedness, accessed August 21, 2014, <http://www.vet.utk.edu/cafsp/courses/per259.php>.

VI. FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS

Prior to the terrorist attacks of September 11, 2001, little thought had been given to the concept of defending agriculture. The term agroterrorism had not even been used until about 2000. The first planning for a national strategy on agriculture defense began to appear in 2002. Still, there had been little discussion on law enforcement's role in defending agriculture. NIJ212280 was the first major academic study of its kind in analyzing this role. As of this writing, NIJ212280 continues to stand as the only study of its kind serving as a framework for law enforcement's role in defending agriculture and agroterrorism.

Findings, conclusions, and recommendations from the NIJ212280 study having potential applicability to Florida were used to develop a series of questions designed to analyze Florida law enforcement's capacity to accomplish their roles and responsibilities in the prevention and response to agroterrorism. The following questions were asked:

- Is there a strategy for identifying threats to, and assessing the vulnerability of, the agriculture community in Florida?
- Does the capacity exist in Florida to effectively collect, analyze, and disseminate agriculture related information and intelligence?
- Is there a community policing strategy in the Florida agriculture community? NIJ212280 recommends the Agro-Guard model.
- Does Florida engage in the interdiction of illegally imported and possibly contaminated food products? NIJ212280 recommends establishment of a SFIT.
- In the event of an FAD event response, does the capacity exist to simultaneously handle the animal health related issues, as well as manage crime scene and evidentiary requirements and conduct a criminal investigation, if required. NIJ212280 recommends establishment of a RRT.
- Does Florida law enforcement possess the capacity to enforce quarantines and stop movement plans in the event of an FAD event?
- Are agroterrorism trainings available and/or being delivered to Florida law enforcement?

The first four bulleted items fall under the heading of Prevention Capabilities. The next two fall under Response Capabilities. The final bullet, training issues, crosses both capabilities and is addressed within each category.

With these capabilities questions identified, the Florida assessment was conducted to establish the current level of capabilities in these areas. Next, a gaps analysis was conducted by evaluating Florida's existing capabilities against the questions in the context of the findings and recommendations from the NIJ212280. This final chapter discusses findings and conclusions resulting from the research and analysis and a multigoal analytical approach was used to develop recommendations for Florida. Criteria used to develop recommendations included cost, political ramifications or level of political acceptability required, legal and policy issues, and the anticipated effectiveness of the recommendation. In every case possible, existing frameworks and capabilities were recommended for enhancements as opposed to creation of new programs in the interest of cost effectiveness and political acceptability.

A. CONCLUSIONS

1. Prevention Capabilities

The research into the Florida assessment found areas in which solid prevention efforts have been taken, such as contaminated food interdiction. In fact, the research found that the existing food interdiction system in place now in Florida achieves the desired goals as outlined in NIJ212280 requiring no enhancement. However, there were also areas found with significant gaps, such as information and intelligence, threat and vulnerability assessments and agriculture community policing.

One of the findings of NIJ212280 was that development and sharing of agriculture related intelligence was practically non-existent. This finding has been found true as well in Florida's agriculture information and intelligence capabilities. There appears to be little exchange and analysis of information with the food and agriculture sector. Significant gaps in this capability exist, including limited agriculture industry subject matter expertise capability at the FFC, little or no information exchange between the FFC and FDACS regulatory personnel, lack of analytical and intelligence component

within OALE, lack of OALE participation in the JTTF, and lack of agroterrorism focus within the FACIU.

OALE is Florida's lead law enforcement agency for agriculture matters and should assume responsibility for building an agriculture focused intelligence capability in Florida. Unfortunately, this could cost some money and thus, could be a little painful. However, OALE should create and fund a dedicated agency intelligence and criminal analysis unit (I&A), complete with assigned analyst and investigator positions. The analysts do not have to be hired on as experts on analysis, terrorism, or law enforcement. These are trainable skills. The analysts do have to be subject matter experts on the food and agriculture sector. An SME analyst should be assigned to the FFC to review all intelligence exchanges from the perspective of an agriculture sector expert.

The I&A unit would interface with the FACIU, FDACS regulatory and non-sworn division personnel, and engage in industry and community outreach. The FACIU was found to be a tremendous asset in the collection and sharing of agriculture crime information with an established membership of law enforcement focused on agriculture. An OALE intelligence analyst should be highly engaged with the FACIU in both sharing and distributing information and in attending meetings. This would keep the channels of information open as well as provide the opportunity to input a focus on agroterrorism issues into the FACIU. Engaging with the non-sworn entities of the FDACS regulatory divisions, who have constant interaction with the agriculture community, could provide a wealth of information on what is going on in the sector. Additionally, OALE should assign an investigator from the agency intelligence unit to one of the JTTFs. The JTTF is the lead mechanism for participating in terrorism related investigations and receiving info. There should be agroterrorism perspective represented on the task force.

There are many training classes and programs already, as outlined in the assessment chapter, available in Florida that would be valuable for members of a new agriculture focused I&A unit. The agroterrorism AWR training courses, the agriculture related FEMA courses, and agriculture related intelligence courses such as *PER-259*. The *FDLE Law Enforcement Analyst Academy* should be mandatory as well for all new analysts.

Granted, this proposal is not an easy solution, requiring creating a new program within OALE that does not now exist and funding new positions. However, in doing so, OALE would create conduits of information exchange and analysis capabilities that do not now exist in the State of Florida. New expenditures could potentially be mitigated, if not eliminated with the correct strategy. FDACS is a large agency and there is a possibility positions could be identified for reclassification in lieu of approaching the legislature for new appropriations. If a handful of positions could be identified for reclassification, an I&A unit could be created with no new costs.

By using existing infrastructure such as the FFC, it leverages current capabilities and limits new spending and the need for new programs. Fusion center criticisms were discussed previously, however, if the fusion center is not the ideal venue for facilitating the flow and analysis of agriculture information and intelligence, then the question is “where would that place be”? In reality, there may be no perfect solution to information sharing. The fact is the fusion center network is Florida’s choice for intelligence and information sharing. A gap exists in Florida in facilitating the receipt of, analysis of, and dissemination of agriculture intelligence and information, and the fusion center is the appropriate venue for addressing the deficiency. A food and agriculture SME provided through an OALE I&A unit could greatly enhance that “value proposition” described in the CRS report for the Florida Fusion Center.

Standing up an intelligence unit within OALE and providing an agriculture SME analyst in the FFC feeds directly into the next prevention item community policing. Florida does not have an agriculture community policing capability as described in NIJ212280. However, the mechanisms or vehicles are already in place that could be enhanced to achieve this capability. These existing mechanisms are the SART group and the FACIU.

As a MAC group partnered with agriculture responders and producers and focused on agriculture planning, prevention, biosecurity, awareness and protective actions in the agricultural community, SART is highly engaged with the industry and community. SART already exists as a partnership between FDACS and animal health through VetCore, the industry through dozens of group partnerships, and the community

with thousands of affiliated volunteers. SART offers an excellent vehicle for creating an agriculture community policing effort, needing only the addition of law enforcement members to create the desired interaction as described in NIJ212280.

Sheriffs are highly important members of the law enforcement community in Florida and tend to have close ties with their communities. Many Sheriff's Offices have dedicated agriculture crimes units or deputies. Many of these participate in the FACIU, which offers another excellent vehicle for creating an agriculture community policing effort. The FACIU is comprised of the law enforcement members that SART lacks, yet lacks the industry and community outreach that SART excels at. OALE is already active in the FACIU with all OALE investigators on the membership role. SART is also familiar to the FACIU, having participated in FACIU annual conferences providing training.

There is no need to reinvent the wheel or create a new program from scratch in order to achieve the capabilities recommended by NIJ212280. The gaps analysis found many of the aspects found in SART and the FACIU mirror the goals for the AgroGuard program as outlined in the NIJ study. The primary pieces missing were found to be the lack of a focused effort under the banner of "agriculture community policing" and lack of a direct information gateway with the public. The lack of a focused and designed agriculture community policing program is not necessarily a gap if the capability is being achieved, i.e., if the outreach and engagement between law enforcement and the agriculture community is occurring and information is being exchanged then the goal is being met even if it not called an "AgroGuard" program. Between the efforts of SART and the FACIU the outreach and engagement is occurring. What is missing is the information loop between the community and law enforcement.

What is needed is to combine the existing capabilities and infrastructure provided by SART, the FACIU and OALE and hopefully incorporate the new capabilities brought about with creation of an OALE intelligence unit and increased agricultural focus in the FFC. Instead of creating an AgroGuard program to promote the sharing of information between law enforcement and the agriculture community the existing mechanisms of SART and the FACIU can be used to promote this concept as a part of their normal, daily

interactions. To support this effort, signs could be made and placed in the community, similar to the AgroGuard signs from the NIJ212280, with contact numbers to call the FACIU or the OALE I&A unit to report suspicious activity in the agriculture community. This enhancement would create those avenues of engagement and channels of communication sought by the authors of the NIJ212280 and would meet the recommended capability.

Both the agriculture community-policing concept and the intelligence and information sharing components play into the final prevention item, threat and vulnerability assessments. Florida has a robust state strategy in place for protection of critical infrastructure, and the food and agriculture sector, as well as having the infrastructure in place for addressing this strategy with the regional Critical Infrastructure Planners. The gap in this capability, despite the state strategy, has been the presumed lack of focus on the agriculture sector. This dynamic is not only found in the critical infrastructure realm and is not isolated to Florida. As found in the literature review, the food and agriculture sector tend to receive comparatively less attention than most other areas in the homeland security sphere. With the strategy and framework largely in place already, all that is needed is to supply the focus and direction.

The creation of an OALE I&A unit would play a key role in supplying this focus and direction. The I&A would facilitate the channeling and analysis of threat information from the agriculture community and industry, SART, and the FACIU to provide the CI planners with direction on emerging threats in the food and agriculture sector. The CI planners need education and training on the agriculture sector and its associated risks and threats. This training is available. The agriculture industry and community needs education on the risks of agroterrorism and the benefits available from threat and vulnerability assessments. Members of the agriculture industry are largely buffered from the homeland security world, which likely contributes to the comparative lack of attention paid to the sector. Engagement between the sector and law enforcement would increase the benefits to both parties. Interaction and information exchange between the FACIU, SART, OALE I&A and CI would increase the focus on threats to agriculture and set Florida on the road to meeting the capability recommended in NIJ212280.

While these prevention issue gaps have been discussed and addressed as three separate topics, they are really interwoven and interdependent. In the final analysis, they are all about the exchange and flow of agriculture specific information and intelligence. In Florida, there are currently very few channels of agriculture information flow. The NIJ212280, as well as selections from the literature review, stressed the need for this flow of agriculture-specific information from and to the agriculture community and industry, law enforcement, and the intelligence apparatus. The creation of an agriculture focused intelligence unit staffed with true sector subject matter expert analysts could facilitate the engagement and exchange of information with the industry and community, non-sworn government employees in the sector, OALE, the FACIU, SART, and the RDSTFs and critical infrastructure program.

2. Response Capabilities

As the research progressed, it became apparent that Florida's strengths in existing capabilities for an agroterrorism event lay in response. In retrospect, this is no surprise as Florida is heavily invested in response in general. Florida is no stranger to emergency response, often being the target for significant natural disasters such as major hurricanes. Over decades of these large-scale events, Florida has honed its emergency response capabilities with heavy investment in pre-event planning, emergency management infrastructure and capabilities, and stored and staged resources. The research found this to be the case as well for agriculture related response capabilities. The response related capabilities to be met included the capacity to respond to an FAD event and simultaneously handle the animal health related issues, as well as manage crime scene, evidentiary requirements, and conduction of criminal investigation, and quarantine enforcement capabilities.

Florida already has much of the response recommendations from NIJ212280 working and in place. Extensive response plans and capabilities exist for an FAD event or other agriculture or animal disease outbreak within FDACS, DAI, SART, and the FAD-ERP. The element that is missing from Florida's capabilities is having a law enforcement component intrinsic to their response as is outlined in the RRT concept in NIJ212280.

Florida has a large and capable agriculture focused law enforcement element within FDACS in their OALE division. As noted in the Gaps Analysis chapter, the gap is not with capability it is with policy and strategy. With effective response plans and statutory authorities already in place, these gaps are easily rectified.

The FAD-ERP, as well as any protocols or plans for responding to an animal disease event that is not an FAD such as the EHV-1 event, should be amended for inclusion of an OALE investigative unit with any DAI animal disease response team to address these gaps. The FAD-ERP section on quarantines should also include an OALE uniform bureau unit response to facilitate the immediate enforcement of quarantines, which will surely be required in even a small FMD outbreak. OALE has a proven history for enforcing quarantines and stop movements at the state borders with their line of interdiction stations, and can easily enforce these orders at the state border. However, the research, especially the findings of the British experience with FMD, reveals how critical rapid placement and strict enforcement of localized quarantine zones are critical to containing an FMD outbreak.

OALE policy should be amended to include a policy on Agroterrorism, which would outline roles and responsibilities associated with an FAD or other animal disease event. Agroterrorism training should be mandatory for all OALE sworn personnel. *AWR-151* should be required for all OALE sworn personnel and any FDACS personnel who may be tasked with responding to an animal disease outbreak. The more advanced courses *AWR-152* and *AWR-153* should be required for all investigators who may be assigned criminal investigative duties in an agroterrorism or animal disease event. OALE should engage in outreach with sheriff's offices and other state agencies that may be called upon to assist in quarantine enforcements, to market the importance and availability of the AWR courses to these entities. With these changes and inclusions to policy and strategy, Florida would have an animal disease response capability on par with and exceeding the RRT concept, as recommended in the NIJ212280.

The final issue was the cross conflict found in law enforcement agency roles and responsibilities in an agroterrorism event with OALE having statutory authorities over agriculture matters and FDLE having statutory authorities in terrorism related issues. This

could lead to ambiguity or even contention over who is responsible at an agroterrorism scene and who takes the lead role. The solution is to combine the two agencies, their statutory responsibilities, and their professional strengths. An MOU could be drafted and signed by FDLE and OALE acknowledging that a joint investigative team from the two agencies would respond in the event of an agroterrorism attack.

B. RECOMMENDATIONS

- Create an intelligence and analysis unit within the Office of Agricultural Law Enforcement staffed with food and agriculture sector subject matter experts.
 - Assign a sector SME analyst from this unit to the Florida Fusion Center.
 - Assign a sworn investigator from this unit to the Joint Terrorism Task Force.
 - Unit responsibilities should include active engagement with the State Agriculture Response Team, the Florida Agriculture Crimes Intelligence Unit, and the Regional Domestic Security Task Forces to promote and facilitate interaction with the agriculture community and the exchange of information to identify threats to the food and agriculture sector.
- Enact changes to Florida Department of Agriculture and Consumer Services policies, standard operating procedures, and response plans for animal disease response events to incorporate an intrinsic criminal investigative and uniformed response component provided by the Office of Agricultural Law Enforcement.
- Enact an Office of Agricultural Law Enforcement agroterrorism policy specifying the agencies roles and responsibilities in an agroterrorism event, as well as mandatory training requirements.

C. FUTURE RESEARCH

The scope of this thesis has been intentionally narrow in focus to allow for a reasonable volume of research and analysis to be conducted in the time restraints of this program. There is so much more research to be done on the topic of the threat of agroterrorism in Florida. The threat primarily discussed in the context of this thesis was foot-and-mouth disease. However, there is far more to Florida's agriculture landscape than livestock.

Research should be conducted into the threats to Florida's citrus and crop industries, which remain tremendously vulnerable to diseases such as citrus canker and citrus greening, as well as pests such as MedFly and brown garden snail. As noted in the literature review, at one time the CIA investigated the possibility of citrus canker having been a product of a Cuban bioweapons program. In the smuggled food interdiction section this thesis touched briefly on food safety. Food safety and the threat of contamination within the food supply chain is a tremendously important and timely topic in homeland security. There are many different research possibilities just on this topic.

Finally, there is future research available on the very basis for this thesis, the National Institutes of Justice study *Defining Law Enforcement's Role in Protecting American Agriculture from Agroterrorism*. For the purposes of this thesis, it was accepted that this study was the only one of its kind, and thus served as a framework for defining the ideal capabilities for law enforcement in defending against agroterrorism. However, no indication was found that analysis has been done into the effectiveness of the study and its resulting initiatives. The study was completed in 2005, and it would be interesting to see an in-depth analysis into where those initiatives that were enacted in Kansas are ten years later, and what programs were most effective.

APPENDIX A. FLORIDA STATE STATUTE 570.03

FSS 570.073, Department of Agriculture and Consumer Services, law enforcement officers:

(1) The commissioner may create an Office of Agricultural Law Enforcement under the supervision of a senior manager exempt under s. 110.205 in the Senior Management Service. The commissioner may designate law enforcement officers, as necessary, to enforce any criminal law or conduct any criminal investigation or to enforce the provisions of any statute or any other laws of this state. Officers appointed under this section shall have the primary responsibility for enforcing laws relating to agriculture and consumer services, as outlined ¹in this section, and ²have jurisdiction over violations of law which threaten the overall security and safety of this state's agriculture and consumer services. The primary responsibilities of officers appointed under this section include the enforcement of laws relating to the following:

- (a) Domesticated animals, including livestock, poultry, aquaculture products, and other wild or domesticated animals or animal products.
- (b) Farms, farm equipment, livery tack, citrus or citrus products, or horticultural products.
- (c) Trespass, littering, forests, forest fires, and open burning.
- (d) Damage to or theft of forest products.
- (e) Enforcement of a marketing order.
- (f) Protection of consumers.
- (g) Civil traffic offenses as ³provided in state law.
- (h) The use of alcohol or drugs which occurs on property owned, managed, or occupied by the department.
- (i) Any emergency situation in which the life, limb, or property of any person is placed in immediate and serious danger.
- (j) Any crime incidental to or related to paragraphs (a)-(i).
- ⁴(k) The responsibilities of the Commissioner of Agriculture.

(2) Each law enforcement officer shall meet the qualifications of law enforcement officers under s. 943.13 and shall be certified as a law enforcement officer by the Department of Law Enforcement under the provisions of chapter 943. Upon certification, each law enforcement officer is subject to and shall have the same arrest and other authority provided for law enforcement officers generally in chapter 901 and shall have statewide jurisdiction. Each officer shall also have arrest authority as provided for state law enforcement officers in s. 901.15. Such officers have full law enforcement powers granted to other peace officers of this state, including the authority to make arrests, carry firearms, serve court process, and seize contraband and the proceeds of illegal activities.

(3) The commissioner may also appoint part-time, reserve, or auxiliary law enforcement officers under chapter 943.

(4) All department law enforcement officers, upon certification under s. 943.1395, shall have the same right and authority to carry arms as do the sheriffs of this state.

(5) Each law enforcement officer in the state who is certified pursuant to chapter 943 has the same authority as law enforcement officers designated in this section to enforce the laws of this state as described in subsection (1).²⁷⁰

270. "Department of Agriculture and Consumer Services, Law Enforcement Officers," F.S.S. Ch. 570.073, 2002, <http://www.flsenate.gov/Laws/Statutes/2011/570.073>.

APPENDIX B. FLORIDA DOMESTIC SECURITY STRATEGIC PLAN, OBJECTIVES 3.1 AND 3.2

OBJECTIVE 3.1 – CRITICAL INFRASTRUCTURE PROTECTION:

The risk to, vulnerability of, and consequence of attack to critical infrastructure are reduced through the identification and strategic protection of critical infrastructure as defined in the National Infrastructure Protection Plan.

Step 1: Utilize the Automated Critical Asset Management System (ACAMS) to identify and prioritize critical infrastructure and key resources including systems and assets. Data should be regularly reviewed for accuracy and consistency.

Step 2: Perform vulnerability assessments to validate the magnitude of harm that would result from loss of the asset, identify and rank asset vulnerabilities, and recommend actions to correct highly ranked vulnerabilities.

Step 3: Identify protective measures that could be used to mitigate vulnerabilities identified during asset assessments.

Step 4: Provide awareness training and outreach to government entities, private business, and citizens (pamphlets, news media, etc.) on personal and organizational responsibilities and methods to protect critical infrastructure/key resources.

Step 5: Develop, maintain, utilize and improve a statewide warning system to alert the owners/managers of CI/KR assets of threat information redacted from intelligence sources normally unavailable to the general public.

Step 6: Coordinate with owners/managers of critical infrastructure assets to ensure adequate emergency response and continuity of operations plans are in place and are regularly tested.

Step 7: Provide hazard vulnerability assessments (HVAs) for hospitals that have not yet participated; summarize most common hospital vulnerabilities.

Step 8: Provide appropriate training and access to the State's CI/KR management tool to the first responder community and fusion centers throughout the state.²⁷¹

²⁷¹ Ibid., 14–15.

OBJECTIVE 3.2 – FOOD AND AGRICULTURE SAFETY AND DEFENSE:

Threats to food and agriculture safety and defense are identified, prevented, mitigated, and eradicated. Food and agriculture systems are protected from chemical, biological, and radiological contaminants and other hazards that affect the safety of food and agriculture products.

Step 1: Assess the current status of food and agriculture emergency response plans and procedures available at the federal, state, regional, agency and private sector levels.

Step 2: Develop additional plans and Memoranda of Understanding (MOU) with partner agencies and the private sector to address communication and/or procedural gaps identified by the assessment process.

Step 3: Coordinate and/or integrate federal, state, regional and agency food and agriculture alert, notification and information sharing processes to ensure that information about current vulnerabilities and threats is accessible to federal, state, regional and local government stakeholders. Mechanisms should also be established to enable the timely sharing of key information with private sector partners.

Step 4: Develop, equip, train and exercise multi-agency, inter-disciplinary food and agriculture response and incident management teams with clearly-defined roles and responsibilities. Integrate these teams and their functions into federal, state, regional, and local response plans and procedures. Specific priorities include: the development of statewide and/or regional Food Emergency Response Team(s); providing resources that will allow Food Emergency Response Team(s) to support federal and state response activities; and development of incident management teams prepared to specifically respond to food and agriculture incidents.

Step 5: Enhance and integrate food and agriculture databases with geospatial information, and improve data processes to allow sharing of multi-agency data and to facilitate near real-time use by first responders.

Step 6: Ensure that threat, vulnerability and criticality assessments for food and agriculture critical infrastructure and key resources are completed, and that they are integrated into federal and state risk management programs. Develop methods for emergency assessment of food and agriculture facilities and systems in response to incidents and/or increased threats.²⁷²

272. Ibid., 15–16.

APPENDIX C. AGROTERRORISM TRAININGS

University of California–Davis Western Institute for Food Safety and Security
DHS certified agroterrorism course descriptions:

AWR-151 *Understanding the Dangers of Agroterrorism* is a 3.5 hour course that serves as an introductory course on the subject. The course covers an introduction to the agroterrorism threat and targets, an overview of the U.S. food chain system, an overview of the U.S. policies and protocols in place for agroterrorism, how an FAD scenario in the U.S. could unfold, and response to an FAD event.²⁷³ This appears to be a good introduction for any law enforcement personnel, other government, animal health, volunteers, or the general public to establish a general baseline of knowledge on the topic of agroterrorism, what it is, how the government plans for this scenario, and what the issues are.

AWR-152 *Principles of Preparedness for Agroterrorism and Food Systems Disasters* is 6.5 hours and expands on the 151 course. The course begins with an introduction into agroterrorism preparedness, covers dissemination of WMD, detection and diagnosis, and immediate and long-term response strategies in an agroterrorism event. The course also includes sections covering identifying vulnerabilities and intelligence gathering as well as target hardening and mitigation strategies. This course expands and builds on the baseline established with the 151 course and has topics more focused on law enforcement and emergency responders to an agroterrorism event. The sections on vulnerabilities and intelligence could be useful for the agricultural intelligence analyst. The sections on target hardening and mitigation strategies should be applicable to the critical infrastructure planner or other personnel tasked with evaluating properties and facilities in the food and agriculture sector.²⁷⁴

273. “Understanding the Dangers of Agroterrorism: Participant Guide,” Western Institute for Food Safety & Security, accessed August 7, 2014. http://www.wifss.ucdavis.edu/?page_id=6465.

274. “Principles of Preparedness for Agroterrorism and Food Systems Disasters,” Western Institute for Food Safety & Security, accessed August 7, 2014. http://www.wifss.ucdavis.edu/?page_id=6615.

AWR-153 *Principles of Detection and Diagnosis – Strategies and Technologies* is the next in the series and is a 4.5-hour course. This course focuses on detection and diagnosis, diagnostic methods, handling of samples, investigation of the event, and terrorism vs. naturally occurring events. This course is aimed at the response teams going into ground zero of an agroterrorism FAD disaster and would be good for the law enforcement investigator who has the potential to respond to this type of event.²⁷⁵

AWR-154 *Principles of National Incident Management System (NIMS)* is a 5-hour course covering exactly what the title implies. The course reviews NIMS and ICS in the context of a food and agriculture sector incident.²⁷⁶ The applicability of this course to law enforcement in Florida is limited as NIMS and ICS training are required and provided already. However, this course could be useful for those non-sworn personnel who may respond to an agroterrorism event and would be applicable to those members of agriculture specific Incident Command or Incident Management Teams (IMT). The same could be said for AWR-155 *Principles of Frontline Response to Agroterrorism and Food System Disasters* which builds on the 154 course to cover the Unified Command in this type of incident.²⁷⁷

AWR-156 *Principles of Planning and Implementing Recovery* is a 6-hour course covering long term planning and recovery as the title implies. The course also discusses leadership, operations, finance, and crisis communications. This course is specifically aimed at an audience who would be involved in long term, large-scale planning and recovery efforts. The audience would be in the higher levels of government, the Incident Command, and the agriculture sector. This course is not designed for law enforcement.²⁷⁸

275. “Principles of Detection and Diagnosis – Strategies and Technologies,” Western Institute for Food Safety & Security, August 7, 2014, http://www.wifss.ucdavis.edu/?page_id=6601.

276. “Principles of National Incident Management System (NIMS),” Western Institute for Food Safety & Security, accessed August 7, 2014, https://www.wifss.ucdavis.edu/?page_id=6609&preview=true.

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