

Strategic Partnership Program Agroterrorism (SPPA) Initiative: Execution & Outcomes

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United States Department of Agriculture
Food Safety and Inspection Service

Outline

- **Overview of SPPA Initiative**
- **Program Objectives**
- **Implementation**
- **Deliverables**
- **Status**
- **Results/Outcomes**
- **Next Steps**
- **Conclusion**

SPPA Overview

- Began Fall 2005
- SPPA is joint initiative to protect the nation's food supply from terrorist threats
- SPPA is public-private collaboration between:



SPPA Overview - Who

U.S. Government;

- U.S. Department of Agriculture (USDA)
- DHHS Food and Drug Administration (FDA)
- Department of Homeland Security (DHS)
- Federal Bureau of Investigation (FBI)
 - Program lead, manage contract



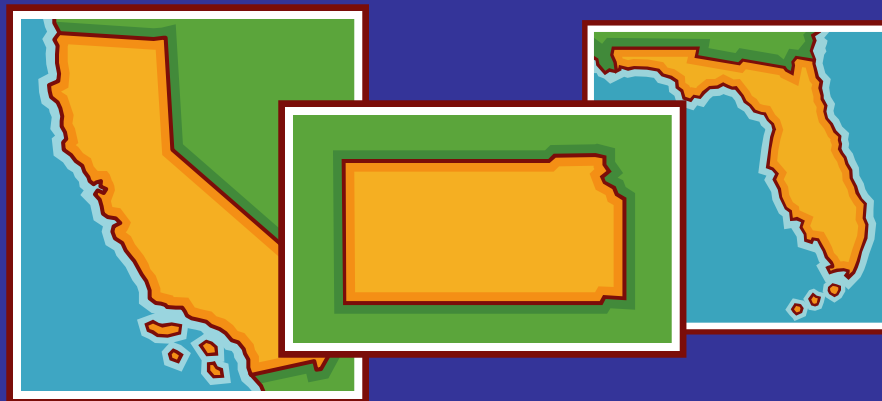
SPPA Overview - Who

- Private industry;

and



- States



SPPA Overview

Conduct assessments to:

- Validate or identify vulnerabilities in or threats to food supply
- Identify indicators/warnings that could signify planning for an attack
- Identify research gaps and needs
- Develop mitigation strategies to reduce threats/prevent attacks (industry or government)
- Increase awareness and coordination between food & agriculture government and industry stakeholders



Program Objectives

Additional objectives for SPPA Initiative include:

- **Inform Homeland Security Centers of Excellence of identified research needs**
 - **National Center for Food Protection and Defense (NCFPD)**
 - **National Center for Foreign Animal and Zoonotic Disease Defense (FAZD)**
- **Catalog lessons-learned**
- **Validate assessments conducted by USG for the food and agriculture sector**
- **Gather information to enhance existing tools that both USG and industry employ in food defense**

SPPA Overview - Why

- Assessments support requirements for a coordinated (Federal, State, Industry) food and agriculture infrastructure protection program as stated in:
 - Homeland Security Presidential Directive 9 (HSPD-9), *Defense of US Agriculture and Food*
 - Establishes National policy to defend agriculture & food against terrorist attacks, disasters, emergencies
 - Directs government to work with industry: identify/prioritize critical infrastructure, development awareness, mitigate vulnerabilities, enhance screening of domestic & imported products, enhance response & recovery
 - Sector Specific Plans (SSP) in National Infrastructure Protection Plan (NIPP)

SPPA Criteria List

- **USDA and FDA proposed lists of key products or commodities within their jurisdiction that could/should be assessed for the SPPA program**
 - **Criteria List**
- **Many of criteria list assessments completed; some still outstanding**

SPPA Criteria List

- Aquaculture production
- Cattle stockyard/sale barn
- Beef cattle feedlot
- Citrus Production
- Corn farm
- Dairy farm
- Poultry farm
- Rice mill
- Seed production
- Soybean farm
- Swine production
- Veterinary biologics
- Deli meat processing
- Grain elevator/Grain export handling facility
- Ground beef processing
- Hot dog processing
- Import facilities
- Processed poultry
- Liquid eggs processing
- School kitchens
- Retailers – processing meat
- Warehouses/Distribution Center
- Animal foods/feeds
- Baby food
- Deli salads
- Dietary supplements
- Flour
- Frozen entrees
- Fruit juice
- Gum arabic
- High fructose corn syrup
- Honey
- Ice cream
- Infant formula
- Milk
- Peanut butter
- Produce
- Seafood
- Soft drinks
- Spices
- Vitamins
- Bottled water
- Yogurt
- Stadium Food Service
- Breakfast cereals
- Conducted
- Scheduled
- Outstanding

SPPA Implementation

- **Industry . . .**
 - Trade Association (e.g., American Meat Institute) or
 - Company (e.g., Johnsonville Sausage)
- **or State Agency . . .**
 - Kansas Dept. of Agriculture, Ohio Dept. of Corrections
- **. . . volunteers to participate in assessment of vulnerabilities in food or agricultural industry/system**
 - Complete 1 page Response Form (online at www.usda.gov)
- **Responsibility of volunteer:**
 - Participate in organizing the assessment
 - Arrange for a site visit to a facility engaged in the particular activity
 - Provide expert participation for assessment
- **Ideally, food or system is on Criteria List**

Implementation

- Volunteer is partnered with appropriate government Sector-Specific Agency (SSA) who has responsibility for sector
- Either:
 - FDA
 - or
 - a USDA Agency
- **Over 20 USDA Agencies and Offices**
 - 6 USDA agencies involved in SPPAs





Food Safety and Inspection Service

- The Food Safety and Inspection Service (FSIS) is the public health agency in the U.S. Department of Agriculture responsible for ensuring that the nation's commercial supply of meat, poultry, and egg products is safe, wholesome, and correctly labeled and packaged
 - Provide Inspection Services Nationwide
- *Worked with FDA to develop process/procedures for assessing vulnerabilities in food and food systems*
- *Conduct internal vulnerabilities assessments*
- *Develop security/food defense guidance*
- *FSIS has conducted majority of USDA-led SPPAs:*
 - *frozen pizza, liquid eggs, hot dogs, ground beef, RTE chicken, correctional facilities, central kitchens for NSLP, sausages*



US Department of Agriculture

- **Animal and Plant Health Inspection Service (APHIS)**
- **Grain Inspection, Packers and Stockyards Administration (GIPSA)**
- **Food and Nutrition Services (FNS)**
 - *Administers National School Lunch Program (NSLP)*
- **Agricultural Marketing Service (AMS)**
 - *Responsible for procurement of both FDA and FSIS regulated foods for the NSLP*
- **Farm Service Agency (FSA)**
 - *Regulates commercial agricultural warehouses (e.g. grain elevators)*

SPPA Implementation

The USG Sector Specific Agency (SSA) leads assessment:

- **SSA agency forms assessment team of knowledgeable personnel. Team includes:**
 - **USG representatives (USDA, FDA, DHS, FBI)**
 - **State and local reps (State Dept. of Health, State Dept. of Ag, FDA, USDA, law enforcement, Homeland Security offices, vets, etc)**
 - **Industry representatives**
 - **Work closely with commodity group trade associations (or professional societies) to increase the number of companies and other participants in the assessment, prepare background materials**
- **Assessment team about 20-30 people in size**

Implementation

- **Industry participants develop background material and flow diagram of product/system to be assessed:**
 - **Generic**
 - **Based on more than one company**
- **Pre-assessment conference call**
 - **Goals, training on methodology**
- **Site visit (tour) conducted at a location (e.g., processing plant) representative of the industry/commodity group**
 - **SPPA does not assess specific vulnerabilities of individual company or facility**

Implementation

- **After site visit, team conducts assessment**
- **Actual assessment takes place in a conference room**
- **Assessment takes 2 – 4 days depending on complexity**
- **Contractor support provided**

Assessment Methodology

- **CARVER + Shock methodology used in SPPA assessments**
- **Modified by FSIS and FDA to allow assessment of vulnerabilities of food supply**
- **Breaks a food system down into small pieces (nodes)**
- **Simplifies and standardizes process**
- **Analysis of each node allows for determining which are “critical”, i.e., most likely targets for attack**

Assessment Methodology

Cont.

- **Mitigation steps, best practices proposed and discussed**
- **Research gaps and needs identified**

Deliverables – Working Papers

- Working Papers Reports are developed by contractor and approved by industry participants
- Distributed to all attendees; marked as “Sensitive” (non-classified)
 - For SPPA, Sensitive information is defined as “information whose unauthorized disclosure could compromise the safety of or consumer confidence in the industry” (FBI 6/5/07)
- SPPA participants agreed to restrict distribution of Working Papers to those in their organizations with a “need to know”
- However, encouraged to share knowledge gained to “harden targets”
 - Company-specific basis
 - Industry or system-wide basis

Deliverables – Assessment Report

- **For each assessment, a final Assessment Report is produced**
- **Assessment Report is classified in accordance with USG guidelines**
 - **CARVER + Shock scores for nodes & threat agents deemed “Secret”**
- **Classified report from each site visit details critical nodes, threat agents, vulnerabilities, possible mitigation strategies, and potential warnings and indicators**
 - **Access restricted to those with a national security clearance and need to know**



Deliverables

- **Strategic Partnership Program Agroterrorism (SPPA) Initiative – First Year Status Report**
 - September 2005 – June 2006
 - Copies in back of room
 - Available online:
[http://www.fsis.usda.gov/Food Defense & Emergency Response](http://www.fsis.usda.gov/Food_Defense_&_Emergency_Response)
- **SPPA FY07 Status Report**
 - October 2006 – September 2007
 - In preparation
 - Expected to be available Nov./Dec. 2007

Deliverables

- **Final SPPA Summary Report**
 - Prepared at completion of program
 - Will have appendix addressing use of CARVER + Shock tool
 - How well did it work?
 - Any changes recommended for future use?
- **Sub-Sector Reports**
 - Prepared at completion of program
 - Categorize assessments by food or agriculture sub-sectors
 - Sub-sector is division within the food and agriculture sector
 - 7 sub-sectors:
 - Producers/plant; producers/animal; retail; processors/manufacturers; restaurant/food service; warehousing and logistics; agriculture inputs & services

Current Status: SPPA Assessments

- **31 vulnerability assessments completed in 2 years**
 - 17 in FY06 (Oct. 2005 – Sept. 2006) 
 - 14 in FY07 (Oct. 2006 – Sept. 2007) 
 - 3 remain to be completed this fiscal year
- **14 assessments tentatively planned for FY08 (October 2007 – September 2008)**

SPPA Assessments Conducted Oct. 2005 – Sept. 2006 (FY06)

Sector Specific Agency	Industry	State
FDA	Yogurt	TN, MN
FDA/ USDA FSA	Grain – export elevators	LA
FDA	Bottled Water	NJ
FDA	Baby Food – jarred applesauce	MI
USDA FSIS, FNS, AMS	School Central Kitchens	NC
USDA APHIS	Swine Production	IA
FDA/ USDA FSIS	Frozen Food – pizza	WI, FL
FDA	Juice Industry – apple juice	NH
USDA FSIS	Egg Products – liquid	PA
FDA	Fresh-Cut Produce – bagged salads	CA
FDA	Infant Formula	AZ
USDA FSIS	Poultry Processing	AR
FDA	Fluid Dairy – processing	NY
USDA APHIS	Beef Cattle Feedlot	NE
USDA FSIS	Ground Beef Processing	KS
USDA APHIS	Live Auction Markets	MO
USDA APHIS	Dairy Cattle Farm	ID

SPPA Assessments Conducted Oct. 2006 – Sept. 2007 (FY07)

Date	Sector Specific Agency	Industry
Oct 06	USDA APHIS	Soybean Growers
Nov 06	USDA APHIS	Corn Growers
Jan 07	FDA	Retail Fluid Dairy Milk
Feb 07	USDA FSA	Flour
Mar 07	FDA	Stadium Retail Food Service
Mar 07	USDA FSIS	Sausage Processing
Apr 07	USDA FSIS	Correctional Institution Food Processing/Ground Beef
Jun 07	FDA	Commercial Feed Mill
Jun 07	USDA FSIS	Hot Dogs Processing
July 07	USDA FSA	Domestic Grain Cooperative
July 07	FDA	Breakfast Cereal Manufacturer
Aug 07	FDA	Grocery Store
Sep 07	USDA FSA & AMS	USDA Commodity Warehouse
Sep 07	FDA	High Fructose Corn Syrup

Overarching Observations (thus far...)

- Out of CARVER categories, industry can influence/affect “Vulnerability” and “Accessibility” the most
- Mitigation strategies are sensitive part of the discussions, though vital.
 - Many “best practices” and flow of ideas help foster discussion
- Participation of trade associations are key to a successful assessment
 - Provide general ranges and serve as broker during discussions involving proprietary information

Overarching Observations (thus far...)

- **Many research gaps regarding properties and characteristics of threat agents in specific commodities**
- **Research will be key to mitigating food defense threats and issues**
- **Need to identify and validate R&D initiatives related to the food and agriculture sector**

Vulnerabilities

General Industry-Wide Vulnerabilities

Vulnerabilities identified from SPPA assessments highly dependent on whether a food or agricultural product/commodity.

- **Food Processing**

- Nodes of highest concern are those in which direct human contact both possible and likely with the largest amount of product (large batch sizes)
 - Containers of bulk raw ingredients, or large amounts of mixed ingredients
 - Especially the case if human access is a normal operation step (e.g. manual addition of ingredients)
- Secondary ingredients are a high concern because they are usually dispersed and mixed into large amounts of product during further processing

General Industry-Wide Vulnerabilities

- **Agricultural Production**

- Live animals and plants have different vulnerabilities
- Readily available; highly transmissible; or contagious plant and animal diseases pose greatest threat from an economic perspective
 - Infection of single plant or animal may close borders, impact national economy
- A zoonotic disease (transmissible between animals and humans) as a threat-agent raises the possibility for a dual impact to public health and the economy

Specific FSIS Example

- **Prison System Food Processing SPPA**
 - Partners: FSIS, Ohio Department of Corrections, Ohio Department of Agriculture; National Association of Institutional Agribusiness
 - Prisons provide a competitive food supply source
 - Ohio produces 1.9 million lbs of beef and 1.8 million lbs of pork products per year
- **Unique: existing security infrastructures (e.g., restricted access areas, equipment inventory, identification)**
 - Might think accessibility and vulnerability issues minimal
- **However, vulnerabilities similar to private sector**
 - Accessibility to dry ingredient storage/batch preparation areas and bulk prep areas such as open grinders and hoppers

Threat Indicators

Commonalities of Identified Threat Indicators

- **Employees, visitors, vendors, and contractors, observed in areas where they have no legitimate reason to be**
- **Someone expressing an unusual interest in the production process**
- **Employee health patterns such as unusual absence or attendance patterns and illnesses related to particular job functions or work areas**
- **Delays in deliveries, deviations from delivery schedules or evidence of product tampering**

Mitigation Strategies

Commonalities of Identified Mitigation Strategies

- Physical security measures based on site-specific vulnerability assessments (i.e., vary by site)
 - e.g., cameras, supervision, locks, seals, restricted access, color-coded uniforms or caps, limiting personal items
- Penetration audits – attempt to access facility or location
- Conduct site-specific vulnerability assessments
 - Builds on SPPA
 - Periodically revisit



Commonalities of Identified Mitigation Strategies

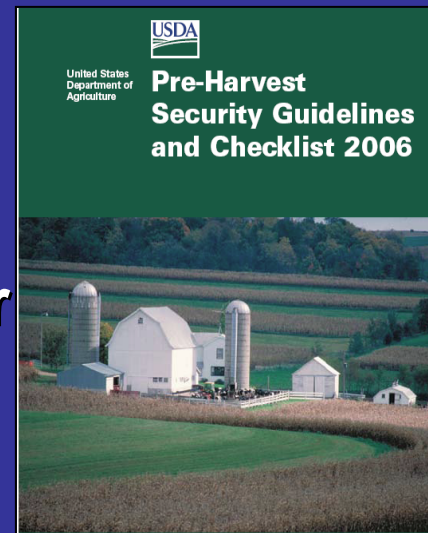
- **Employee peer monitoring programs**
 - Badge challenges, location challenges, buddy system
- **Raw materials inspection**
 - Detection of tampering or adulteration
 - SOPs for rejecting, quarantine, and investigating goods
- **Food process design changes may eliminate threat**
 - Alter time/temp of processing step; physical layout; design equipment for improved security (not open)
- **Incorporate food and agriculture defense into procurement process**
 - Trickle-down effect to suppliers
 - USDA AMS uses SPPA results in contracting for NSLP



Commonalities of Identified Mitigation Strategies

Awareness:

- Employee Training
 - Free web course
- Trade Industry Group Best Practices
- Biosecurity Best Practices for livestock & plants
 - Isolate & protect (screening visitors & water/feed suppliers, decontaminating materials)
 - Mitigate economic fallout
- Other USG Guidance

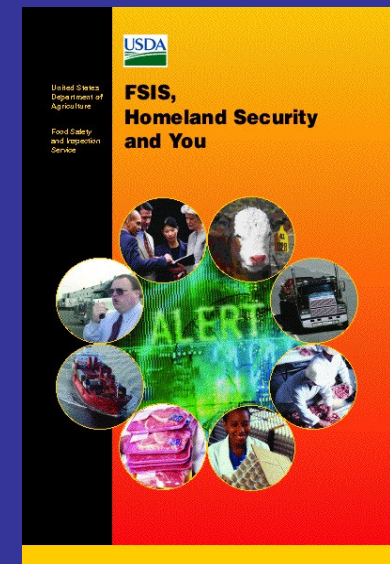
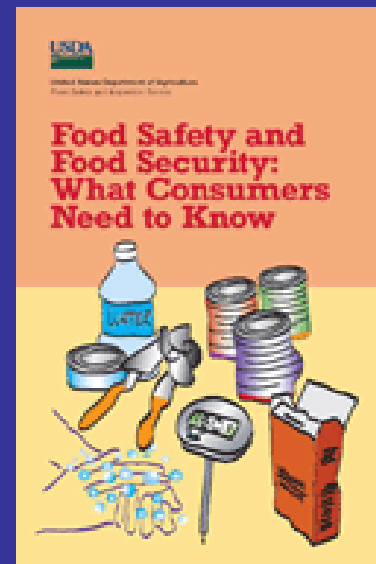
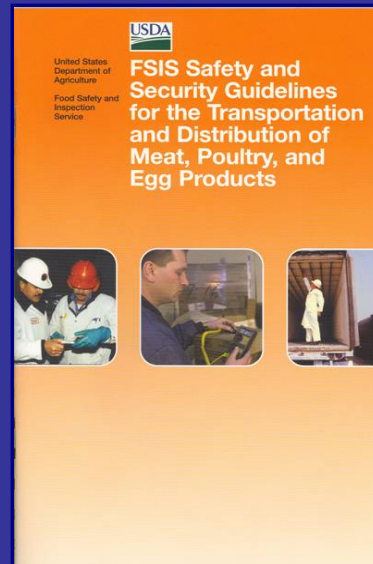
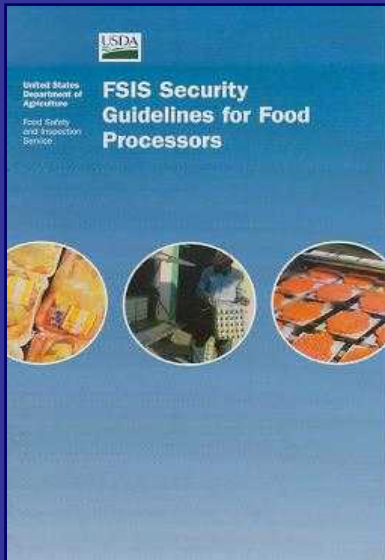


Tanker
Security
Guidelines



Mitigation Strategies - Food Defense Guidance

- **Government Guidance - FSIS has provided food defense guidance to food processors, importers, transporters, and distributors (5 languages)**



Research Needs

Commonalities of Identified Research Gaps and Needs

- Threat agent and agent/matrix research
 - Which agents applicable?
 - Agent stability, persistence, toxic dose, feasibility of production/acquisition
- Incident detection and response
 - Are (rapid) methods available?
- Improved communication channels
 - Consolidation of materials
 - Simple points-of-contact
 - Clear protocols



FSIS-Specific Research Needs & Activities

- Behavior of threat agents in Agency-specific food matrices
- Impact of food processes (e.g., cooking, freezing, acidification) on stability/survivability of agents
- Improved lab detection methods
- Equipment re-design (e.g., development of closed systems)
- Decontamination technologies (e.g., effect of sanitizers)
- Organoleptic changes in foods in response to addition of threat agents

Next Steps

- **Continue with remaining planned FY07 assessments**
 - August: Grocery Store - FDA
 - September: USDA Commodity Warehouse – FSA & AMS
 - September: High Fructose Corn Syrup - FDA
- **Schedule and conduct FY08 assessments**
 - 14 assessments tentatively planned for FY08
 - Still seeking partners/volunteers
 - Of 14 tentative assessments, only 4 have identified sponsors

Future SPPAs: FY08 Assessments Tentative

Date	SSA	Industry	Location
Oct 07	USDA APHIS	Seed Producers	MI
Oct or Nov 07	FDA or USDA	Transportation	TBD
TBD	USDA FSIS & FDA	Distribution Centers/ Refrigerated Warehouse Industry	TBD
TBD	FDA	Food Service	NV
TBD	FDA	Full Service Restaurant	TBD
TBD	FDA	Ice Cream	TBD
TBD	USDA APHIS	Poultry Farm	MS
TBD	USDA FSIS	Smoked Ham	OH
TBD	USDA FSIS	Import Warehouse	TBD
TBD	USDA	Rice Industry	TBD
TBD	USDA	Citrus Industry	TBD
TBD	FDA	Cheese	TBD
TBD	FDA	Seafood, Cooked, RTE	TBD
TBD	FDA	Deli-Salads	OR?

Remaining Key Criteria List

Sector Specific Agency	Industry
FDA	Animal By-Products
FDA	Breaded Food, Frozen, Raw
FDA	Canned Food, Low Acid
FDA	Dietary Supplement, Botanical, Tablets
FDA	Entrees, Fully Cooked
FDA	Gum Arabic (Ingredient)
FDA	Honey
FDA	Peanut Butter
FDA	Soft Drink, Carbonated
FDA	Spices
FDA	Vitamin/Micro-ingredient Premixes/Flavors
FDA	Vitamins, Capsules
USDA	Aquaculture Production Facility
USDA FSIS	Retailers (further processing on-site)
USDA	Veterinary Biologics

Next Steps

- Program scheduled to end September 2008
- Complete Final Summary Report
- Complete 7 Sub-sector Reports



Conclusion

- Impossible to guard against all threats to food and agriculture
- Must anticipate possibility of terrorist attack, evaluate preparedness, & implement mitigation strategies to thwart attacks—or at least mitigate damage and recover
- SPPA Initiative is significant step towards “hardening” food and agriculture industries
 - Provides training and hands-on experience with terrorism-focused assessment tool to industry
 - Provides Federal, State, and local government in-depth look at vulnerabilities associated with these industries
 - Increases communication between industry, government, and law enforcement stakeholders

Questions?
