

THE CIP REPORT

Food and Agriculture Sector

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CIP Program Staff

John McCarthy, *Director /
Principal Investigator*

Jerry Brashear, *Associate
Director, National Capitol
Region Project*

Emily Frye, *Associate Director,
Law and Economics Programs*

Rod Nydam, *Associate Director,
Private Sector Programs*

Dr. John Noftsinger, *Executive
Director, JMU Institute for
Infrastructure and Information
Assurance*

Ken Newbold, *JMU Outreach
Coordinator / JMU CIP Program
Liaison*

Contact: cipp01@gmu.edu
703.993.4840

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Director's Message

This issue of *The CIP Report* is focused on the food and agriculture sector.

The Food and Agriculture sector represents one of the most heavily regulated industries, requiring the oversight of nearly 20 federal agencies. In the past year, substantial progress has been made to strengthen the security of the nation's food supply, bringing together an unprecedented level of engagement from government, industry and academia. In July of 2004, the Department of Homeland Security announced the creation of two new University Centers of Excellence on Agro-Security: University of Minnesota's National Center for Food Protection and Defense and Texas A & M University's National Center for Foreign Animal and Zoonotic Disease. These two new academic Centers of Excellence represent only the tip of the iceberg in terms of initiatives and partnerships aimed to improve the security of the nation's food supply.

Public and private partnerships in this sector have further explored new technological and information sharing initiatives that can aid in enhancing security and further protective measures. In addition to the existing Food and Agriculture Information

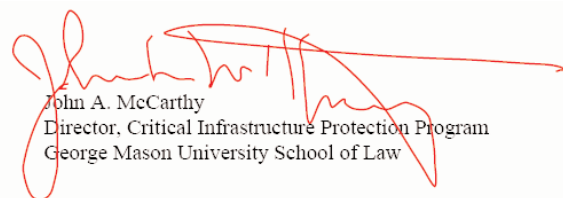
Sharing and Analysis Center, new food security councils now represent the key components of our agriculture and food supply chain. The Private Sector Program component of the CIP Program, as of December 2004, acts as the facilitator and coordinator for the Food and Agricultural Sector Coordinating Council. Featured within this month's issue, Rod Nydam, the Associate

Director of the Private Sector Program, provides insight into the organization of this sector and current membership. We also provide an overview of pertinent legislation and initiatives related to this critical sector, including important work by the Food and Drug Administration and the USDA's Food Safety and

Inspection Service.

Also featured in this month's issue is an interview with Congressman Bob Goodlatte, (R-VA), a member of the Homeland Security Committee and chairman of the House Committee on Agriculture. Under Congressman Goodlatte's leadership, this committee has been responsible for the oversight, policy formation, and funding for the actions taken to ensure the security of agricultural infrastructures.




John A. McCarthy
Director, Critical Infrastructure Protection Program
George Mason University School of Law

Navigating the Food and Agriculture Sector

by Rod Nydam

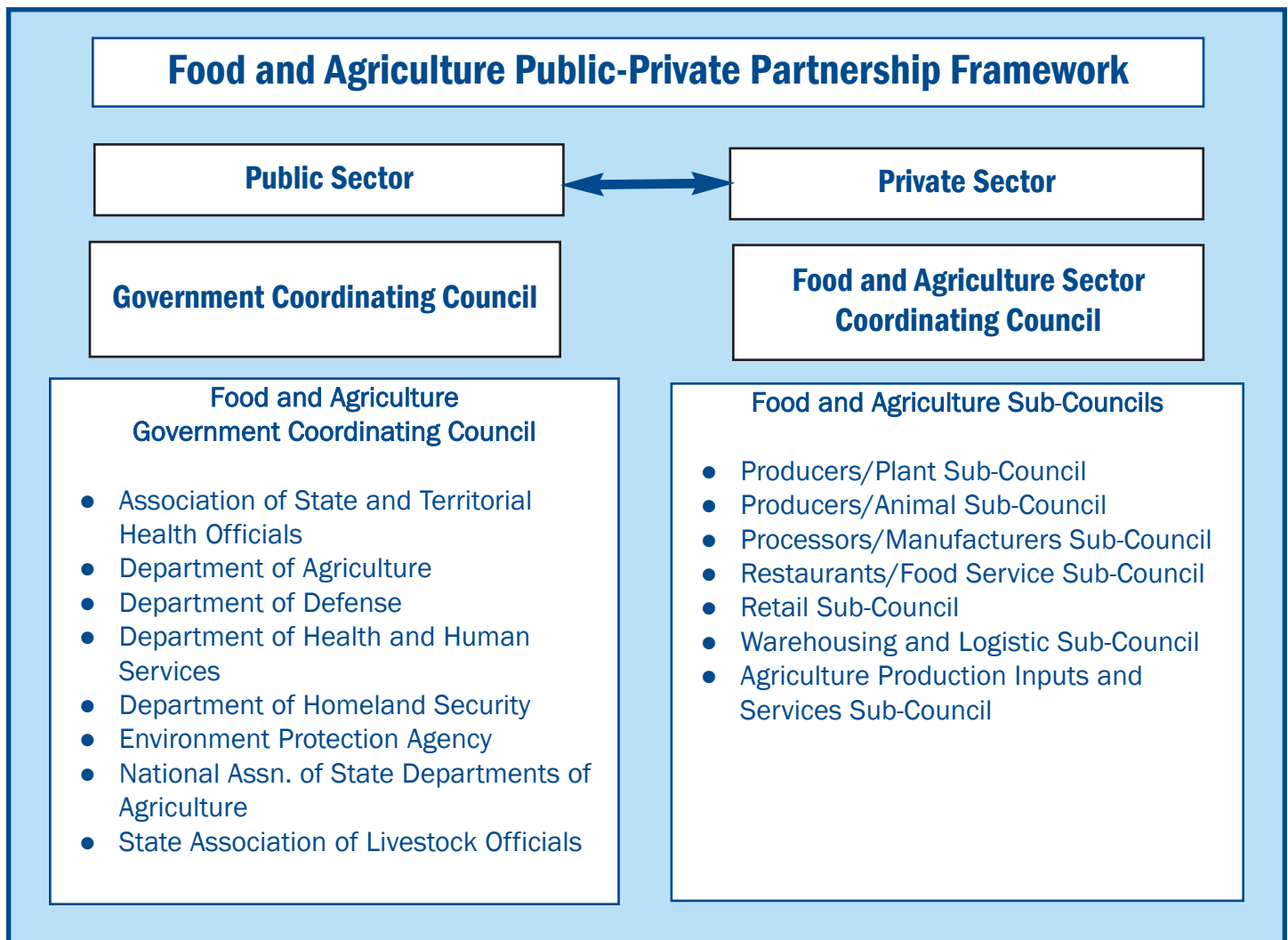
As this edition of *The CIP Report* indicates, protecting the nation's food supply is an ever increasing priority for the government and it has been an increasing focus for the private sector and the CIP Program as well. The CIP Program, through the Private Sector Programs group, is pleased to be playing an increasing role with this critical sector. This article provides a general outline of the organizations established to address the critical infrastructure needs of this sector and some of the

recent government publications and activity.

I. Private Sector Response - Food and Agriculture Sector Coordinating Council (FASCC) and GMU.

In December 2004, DHS requested the CIP Program through its Private Sector Programs group to act as the facilitator, coordinator and secretariat for the newly formed FASCC. The FASCC is a self-governing body representing the

private sector Food and Agriculture industry and it provides a forum for the private sector to discuss infrastructure protection issues among themselves as well as a mechanism to communicate with the government through the Government Coordinating Council (GCC) described below. The FASCC is comprised of three representatives from each of the sub-councils indicated on the graphic below. The sub-councils represent various *(Continued, Page 3)*





Rod Nydam is the Associate Director for Private Sector Programs at the CIP Program. Rod has a BA in Economics from

Cornell University and a JD from Cornell Law School. Prior to joining the CIP Program, he was an attorney in private practice for 17 years and a partner in two international law firms.

Food and Ag Sector (Cont. from Page 2) aspects of this sector and also indicate the complexity of the sector.

The ultimate goal of the FASCC is to increase the security of the nation's food and agriculture through an effective working relationship and open communications with the government. There is a great sense of urgency from both the private sector and the government to unite efforts to increase the breadth and the depth of securing the nation's food supply. That urgency is reflected by the government actions indicated in Section III of this article and also reflected by the fact that scores of associations and industry representatives are represented in the FASCC. For example, more than 100 associations alone participate in FASCC sub-council meetings.

The Food and Agriculture Sector is extremely complex and the FASCC has to address issues ranging from protecting livestock and crops to the safety of

food in grocery stores. Food and Agriculture comprise one of the largest components of GDP and affect and rely upon many other critical sectors such as transportation, water, electricity, chemical and others.

The Private Sector Programs group is able to leverage expertise gained through similar coordination and facilitation with other private sector critical infrastructure protection groups such as (i) groups of Sector Coordinating Councils in other industries, (ii) the Partnership for Critical Infrastructure Security which is an organization addressing cross sector interdependency and CIP issues, (iii) the ISAC Council and (iv) the Water Sector Coordinating Council. Work done with other sector specific and cross sector groups helps to provide a consistent approach to CIP issues. In addition, GMU is able to bring knowledge from other sectors and to apply lessons learned to the FASCC to help guide the sector through some of the building blocks needed for an effective relationship with the government.

In addition to assisting the FASCC with its relationships among private sector participants and its sub-councils, part of GMU's role is to serve as a liaison between the FASCC and the Government Coordinating Council (GCC) established to address needs of the Food and Agriculture industry.

II. Government's Response - Government Coordinating Council (GCC)

The government side of the Food and Agriculture sector is also very complex. Many agencies have jurisdiction and/or interests in various parts of this sector. Government's response to this has been to establish a Food and Agriculture Government Coordinating Council (GCC) which has representatives from the various agencies (see graphic on page 2). The GCC also has representation from state and local government agencies. The GCC coordinates its efforts with one another and partners its efforts with the FASCC. GMU plays a coordination and facilitation role between them.

With respect to Congress, both the House and the Senate have many committees that touch the Food and Agriculture sector with everything from health, regulation, transportation and other issues. Officials recognize the benefit in coordination among these committees, which was evident in the legislative process involved in project BioShield, mentioned below.

On top of all the agencies and committees referenced, states also have a vested interest in protecting their food and agriculture. The interdependency of the sector spans not only multiple private sectors, but multiple governmental agencies. Couple that with the international (Continued, Page 13)

Agriculture and Security: An Interview with Congressman Bob Goodlatte

Jack Wheeler
James Madison University

Jack Wheeler is a Graduate Student in the Institute for Infrastructure and Information Assurance at James Madison University.

The issues of security and preparedness have been a central focus for a large portion of legislative action in the recent past. Nearly every committee within both the House of Representatives and the Senate has been compelled to confront these subjects in some form or another. The House Committee on Agriculture, chaired by Congressman Bob Goodlatte (R-VA), is no exception. This committee plays a vital role in the oversight, policy formation, and funding for the actions taken to ensure the security of agricultural infrastructures.

A recent interview with Congressman Goodlatte has helped to shed light on the measures taken by Congress to protect this critical sector of American society. When asked of the role of the Committee on Agriculture, pertaining to homeland security, the Congressman detailed its primary function of oversight. The Department of Homeland Security has many operations focused on agriculture, and it is the task of the committee to monitor these actions. Congressman Goodlatte then

chronicled many of the contributions the Committee on Agriculture has made in recent years. Over forty million dollars has been provided to states, universities, and tribal lands for agriculture security and preparedness. In addition, increased funding and personnel has been dedicated to a national surveillance system and animal health surveillance, improving the collection and processing of intelligence relating to the protection of this sector. The committee has also taken steps to aid the coordination and communication functions of the Department of Homeland Security and Health and Human Services.

The Congressman stated that “the committee has dealt with security issues facing the agriculture and food sector for over a century. The majority of these efforts have focused on unintentional disasters, such as contaminations and weather related incidents.” While the prevention of such accidents remains the committee’s concentration in relation to security issues, they also provide attention to the threat of terror attacks upon

Congressman Bob Goodlatte represents the sixth district of Virginia, which covers the Shenandoah Valley. He was recently elected to his seventh term as representative. He serves as Chairman of the Committee on Agriculture, and is a member of the Judiciary and Homeland Security Committees.



this sector.

Congressman Goodlatte also conveyed that while positive strides have been taken, a great deal of work remains. With the presence of countless farms and ranches and their contribution to the national economy, the security of these areas continues to be a concern. In the House of Representatives, the Committees of Agriculture, Homeland Security, and Energy and Commerce have coordinated efforts to provide agencies with the tools to ensure protection of this sector. The Congressman also stated that one of the most pressing issues for his committee is that of border security. In recent years, the Department of Homeland Security has initiated a program in which individuals entering the United States are questioned and inspected by one generally (*Continued, Page 16*)

Protecting the U.S. Food Supply Under the Bioterrorism Act

In December, the U.S. Food and Drug Administration (FDA) issued final regulations on the establishment and maintenance of records to protect the U.S. human food and animal feed supply in the event of credible threats of serious adverse health consequences or death to humans or animals.

"Publication of this recordkeeping rule represents a milestone in U.S. food safety and security," said Secretary of Health and Human Services, Tommy G. Thompson. "There is more work to do yet, but our nation is now more prepared than ever before to protect the public against threats to the food supply."

This final regulation implements section 306 of the "Public Health Security and Bioterrorism Preparedness and Response Act of 2002" (Bioterrorism Act), which directs the HHS Secretary to issue regulations requiring persons who manufacture, process, pack, transport, distribute, receive, hold, or import food to

establish and maintain records. These records identify the immediate previous source of all food received, as well as the immediate subsequent recipient of all food released.

"There is more work to do yet, but our nation is now more prepared than ever before to protect the public against threats to the food supply."

Tommy G. Thompson, Secretary of Health and Human Services

"These records will be crucial for FDA to deal effectively with food-related emergencies, such as deliberate contamination of food by terrorists," said Dr. Lester M. Crawford, Acting FDA Commissioner. "The ability to trace back will enable us to get to the source of contamination. The records also enable FDA to trace forward to remove adulterated food that poses a significant health threat in the food supply."

The record retention period for human foods ranges from six months to two years depending on the shelf life of the food. Records for animal food, including pet food, must be retained for one year. The maximum record retention requirement for transporters of all types of food is one year.

Records must be retained at the establishment where the activities covered in the records occurred or at a reasonable accessible location. To minimize the burden on food companies affected by the final rule, companies may keep the required information in any format, paper or electronic. All businesses covered by this rule must comply within 12 months from December 9, 2004, when the rule was published in the Federal Register, except small and very small businesses. Small businesses (11-499 full-time equivalent employees) must comply within 18 months from this date, and very small businesses (10 or fewer FTEs) have to comply within 24 months from this date.

When the FDA has a reasonable belief that an article of food is adulterated and presents a threat of serious adverse health consequences or death to humans or animals, any records or other information to which FDA has access must be available for inspection and copying as soon as possible, not to exceed 24 hours from time of receipt of the official request. The records access (*Continued, Page 6*)



**Lester M. Crawford, Acting Commissioner
Food and Drug Administration**

"The Bioterrorism Act has already catalyzed an extraordinary network of communication and cooperation among and between the entire apparatus of food safety organizations and agencies. The Act also has firmly placed food safety as a legitimate concern within homeland security, national defense and related programs. The challenge now is to promulgate the enabling regulations and to accelerate the requisite research."

FDA Regulations Under the Bioterrorism Act of 2002

Regulation	Description	Status
Establishment and Maintenance of Records	The Act directs the Secretary of Health and Human Services to issue final regulations that establish requirements regarding the establishment and maintenance, for not longer than two years, of records by persons (excluding farms, restaurants and certain others) who manufacture, process, pack, transport, distribute, receive, hold, or import food. The records must identify the immediate previous sources and immediate subsequent recipients of food, including its packaging, in order to address credible threats of serious adverse health consequences or death to humans or animals.	The FDA has issued its final ruling. All businesses covered by this rule, must comply within 12 months from December 9, 2004, with exceptions made for small and very small businesses
Administrative Detention	The Act authorizes the FDA to detain an article of food for which there is credible evidence or information indicating such article presents a threat of serious adverse health consequences or death to humans or animals. This authority is self-executing and provides an added measure to ensure the safety of the nation's food supply. The Bioterrorism Act also requires FDA to provide by regulation procedures for instituting on an expedited basis certain enforcement actions against perishable foods subject to a detention order.	The administrative detention authority took immediate effect with the Act.
Registration of Food Facilities	The Act directs the Secretary of Health and Human Services to take steps to protect the public from a threatened or actual terrorist attack on the U.S. food supply. The regulation requires domestic and foreign facilities that manufacture/process, pack, or hold food for human or animal consumption in the United States to register with the FDA. In the event of a potential or actual bioterrorism incident or an outbreak of food-borne illness, facility registration information will help FDA to determine the location and source of the event and permit the agency to notify quickly facilities that may be affected.	The FDA published an interim final regulation that required all affected facilities to register by December 12, 2003.
Prior Notice of Imported Food Shipments	The Act requires that FDA receive prior notice of food imported into the United States. Most of the prior notice information required by the interim final rule is data usually provided by importers or brokers to the Bureau of Customs and Border Protection (CBP) when foods arrive in the United States. Now, the Bioterrorism Act requires that this information also be provided to FDA in advance of an imported food's arrival to the United States. FDA will use this information in advance of the arrival to review, evaluate, and assess the information, and determine whether to inspect the imported food. FDA and CBP have collaborated on the implementation of the prior notice interim final rule.	The requirements of Prior Notice took effect December 12, 2003.

Bioterrorism Act (Cont. from Page 5) authority applies both to records required to be established and maintained by the final rule, or any other records a covered entity may keep to comply with federal, state, or local law or as a matter of business practice.

The Bioterrorism Act allows FDA to bring a civil action in federal court to enjoin the persons who fail to comply with this rule. FDA also can

seek criminal actions in federal court to prosecute persons who fail to establish and maintain records, as required by the final rule.

FDA has already issued three other final regulations under the Bioterrorism Act, which are in effect (see box above). They cover:

- Registration of foreign and domestic food facilities;
- Prior notice of food shipments imported or offered for import

into the U.S.; and

- Administrative detention, so that food products that might pose a threat of serious adverse health consequences or death may be detained.

FDA will be holding seven public meetings in January and February 2005 to explain the requirements of the final record keeping rule to interested parties. ❖

Two Universities Serve as Centers of Excellence on Agro-Security

In 2004, the U.S. Department of Homeland Security selected Texas A&M University and the University of Minnesota to lead two new Homeland Security Centers of Excellence (HS-Centers) on agro-security. The Department will provide Texas A&M University, the University of Minnesota and their partners with a total of \$33 million over the course of the next three years to address security in two key agricultural sectors – foreign animal diseases and food security.



Francis (Frank) F. Busta, PhD
Director, National Center for Food Protection and Defense

"I am delighted that Texas A&M University and the University of Minnesota and their teams are partnering with Homeland Security in our efforts to address

agro-security challenges," said Homeland Security Secretary Tom Ridge. "I am confident that the cooperative work of these two Centers of Excellence will help further the Bush Administration's efforts to ensure the security of the nation's food supply and protect against foreign animal diseases."

"Protecting our food and agriculture systems is a top priority for

President Bush," said Agriculture Secretary Ann M. Veneman.

"Research conducted at these institutions will greatly enhance our ability to protect against animal and plant pests and diseases and food pathogens."

The Department of Homeland Security anticipates providing Texas A&M University and its partners with \$18 million over the course of the next three years for the study of high consequence foreign animal and zoonotic diseases. Texas A&M University has assembled a team of experts from across the country, which includes partnerships with the University of Texas Medical Branch, University of California at Davis, University of Southern California and University of Maryland. Texas A&M University's HS-Center, which will be known as the National Center for Foreign Animal and Zoonotic Disease Defense, will work closely with partners in academia, industry and government to address potential threats to animal agriculture including foot-and-mouth disease, Rift Valley fever and Avian influenza. Their research on foot-and-mouth disease will be carried out in close collaboration with Homeland Security's Plum Island Animal Disease Center. The HS-Center's efforts are headed by Dr. Neville P. Clarke, Director, Agriculture Bio-terrorism Institute, Texas A&M University.

The University of Minnesota's HS-

Center, known as the University Center for Post-Harvest Food Protection and Defense, will address agro-security issues related to post-harvest food protection. The University of Minnesota's team includes partnerships with major food companies as well as other universities including Michigan State University, University of Wisconsin at Madison, North Dakota State University, Georgia Institute of Technology, Rutgers University, Harvard University, University of Tennessee, Cornell University, Purdue University and North Carolina State University. Homeland Security anticipates providing the University of Minnesota and its partners with \$15 million over the course of the next three years to establish best practices and attract new researchers to manage and respond to food contamination events, both intentional and naturally occurring. Dr. Francis F. Busta of the University of Minnesota's Department of Food Science and Nutrition heads the HS-Center's efforts.

Agro-security is a priority for the Department of Homeland Security and the Bush Administration as a whole. The development and promotion of higher education programs for the protection of animal, plant, food supply and public health were some of the measures President Bush called for in Homeland Security Presidential Directive Nine: Defense of the United (Continued, Page 16)

Is Food Bioterrorism the Next 9/11?

**Bryan Day, Faculty Research Associate
School of Public Policy, George Mason University**



Terrorism. For most, the word conjures horrific images of 9/11. Americans learned that day that we are

exposed in ways we never considered. A degree of innocence was lost. We were outmaneuvered. The national conversation that followed 9/11 tested our imagination and our will as we found vulnerability all around us. Urban centers have become places of greater scrutiny. Landmark buildings and structures have new security. Transportation changed dramatically. In many ways, life will never be the same. But have we been fooled into thinking these are our only weak spots? Could we be at risk with the food we eat and the water we drink?

During a December 2004 press conference, outgoing Health and Human Services (HHS) Secretary Tommy G. Thompson expressed concern about the threat of bioterrorism to our food supply by warning that it is at risk. Citing no direct incident or evidence, he did state that he "cannot understand why the terrorists have not [yet] attacked our food supply." Secretary Thompson recognizes

that while our food supply is safe today, any malicious contamination could cause serious widespread problems. In fact, in May 2002, the World Health Organization (WHO) took the threat seriously enough that it adopted resolution WHA 55.16, which expressed concern terrorists might try to disseminate deadly biological agents through such a vehicle as a nation's food supply. The resolution also called for the WHO director general to provide tools to and support for Member States as they strengthen their food infrastructure.

The United States has already had some experience with food-borne bioterrorism. Examples include salmonella placed in salad bars in 1984 by the Rajaneesh cult, *shigella* injected in pastries by medical laboratory workers in Texas in 1986, and a 2001 incident where an individual contaminated a salad bar in New York City. These instances, while limited in scale, exemplify just how vulnerable and exposed our food supply is to terrorists.

Why food? Is it because only 5% of our food is inspected according to the Food and Drug Administration? Probably not. The more likely reason is that we all eat and drink. And unlike the events of 9/11 where most people tend to see this form of terrorism as an "urban" problem, food

bioterrorism reaches the entire nation. The Anthrax mail scare of October 2001 struck fear from urban Capitol Hill to rural North Dakota - almost every American feared what might come through the mail. Everyone wondered if a letter delivered by the friendly postman contained that deadly white powder.

According to an ABC news article last month, former HHS assistant secretary and counterterrorism chief Jerry Hauer said his colleagues were concerned about terrorists contaminating milk during transport. If not caught, the contaminated milk cartons could soon be on shelves ready for purchase by the public. Should such an incident occur, the consequences may not result in any casualties; however, it could prove psychologically terrorizing to most Americans.

There is a silver lining to this cloud. Steps are being taken to prevent bioterrorists from gaining access to our food supply. Shippers must have accurate documentation of all food sources under the 2002 Bioterrorism Act. The government has also appropriated more resources and increased food inspections. At the front-lines, defensive measures can be taken such as knowing food service/preparation employees, knowing (Continued, Page 16)

Food and Agriculture ISAC: Assisting the Sector from “Farm to Table”

In February, the Food and Agriculture Information Sharing and Analysis Center (ISAC) will mark its three year anniversary. The primary purpose of the ISAC is the rapid and confidential dissemination of information gathered by the government's intelligence community to the food industry regarding any actual or potential threats arising from deliberately malicious or terrorist activity. Beyond that, the ISAC also serves as a vehicle for gathering confidential information from the industry on any actual, threatened or suspected deliberate malicious attacks so that information can be analyzed by experts at the Department of Homeland Security.

The objectives of the Food and Agriculture ISAC include:

1. Making the food industry a difficult and undesirable target

for terrorist attacks.

2. Bringing the industry's talents together to deal with preventing terrorism and deliberately malicious attacks.
3. Providing a rapid means of communicating and disseminating information relevant to these tasks.
4. And, in the event of an attack, providing a means for a coordinated industry-wide response to limit the effects and enable the food system to recover as rapidly as possible.

The overall goal of the Food and Agriculture ISAC is to assist the entire food system, from "farm to table", and the governments in strengthening the nation's capabilities to prevent, detect, and respond to potential future bio-terrorist attacks on the food system. Planning for a comprehensive

food system ISAC is essential.

Based on rapid and secure collection and analysis of data from member industries and outside security sources, the Food and Agriculture ISAC enables its members to generate information on a variety of food safety and bio-security related topics, including physical and cyber security threats, food system vulnerabilities, product contamination, microbial isolates, and reports of consumer illness possibly related to food products.

The ISAC is owned and operated by a consortium of associations representing the industry, coordinated by the Food Marketing Institute. A Board of Directors, drawn from industry members, guides the policies and operation of the ISAC. ❖

HSPD-9: Defense of United States Agriculture and Food

Homeland Security Presidential Directive 9 (HSPD-9), signed January 30, 2004, established a national policy to defend the agriculture and food systems against terrorist attacks, major disasters, and other emergencies. This HSPD, motivated by the largely open, complex and vulnerable food supply chain, recognizes the catastrophic impact a successful attack could have both on the nation's health and economy.

In order to better protect the nation's agriculture and food supply system, HSPD-9 outlines the following actions:

- identifying and prioritizing sector-critical infrastructure and key resources for establishing protection requirements;
- developing awareness and early warning capabilities to recognize threats;
- mitigating vulnerabilities at critical production and processing nodes;
- enhancing screening procedures for domestic and imported products; and,
- enhancing response and recovery procedures.

As dictated by HSPD-7, the Department of Homeland Security is responsible for coordinating and implementing efforts across all Federal agencies and departments. Building on HSPD-7, HSPD-9 identifies the Sector-Specific agencies, Secretary of Agriculture, Health and Human Services, and the Administrator of the Environmental Protection Agency who will also collaborate with the Attorney General, the Secretary of Homeland Security and the Director of Central Intelligence to further expand and monitor the early warning systems, intelligence operations and analysis capabilities to identify potential threats, vulnerabilities and proactive, preventative actions. ❖

Food Safety and Inspection Service: Protecting Public Safety for Nearly a Century

The Food Safety and Inspection Service (FSIS), under its current name since 1981, has been protecting public health since 1906, when the Federal Meat Inspection Act signaled the real beginning of domestic inspection of meat and meat food products in the United States. The Act began a system of continuous, daily organoleptic (sight, smell, touch) inspection in slaughterhouses to detect unsanitary conditions and adulterated products. Poultry inspection began in 1926 on a voluntary basis, and in 1957, Congress passed the Poultry Products Inspection Act, which established mandatory, continuous, daily inspection of poultry products.

Today, the FSIS is the public health regulatory agency responsible for ensuring that meat, poultry and egg products are safe, wholesome and accurately labeled. Research plays an important role in FSIS' ability to fulfill its public health mission and guarantee that the foods it regulates continue to be the safest in the world. FSIS does not carry out its own research; rather it depends on both the public and private research communities—in particular, USDA's Research, Education and Economics (REE) mission area—to conduct the research vital to its mission.

The Office of Food Security and Emergency Preparedness (OFSEP) manages all homeland security activities within FSIS. OFSEP makes sure that policy makers, scientists, field staff and management are prepared to prevent and respond to any food security threat.

FSIS coordinates its efforts with several parties committed to preventing biosecurity threats. FSIS works closely with the CDC, FDA, and EPA, as well as with State and local health agencies, to share information about illnesses.

FSIS also participates in PulseNet, a national network of public health laboratories supported by the CDC. PulseNet performs DNA fingerprinting on foodborne bacteria and assists in the detection of foodborne illness outbreaks and traceback to their sources, including detection of a

linkage among sporadic cases. PulseNet, combined with epidemiology, has been key in enabling Federal agencies to rapidly detect and control outbreaks of foodborne illness.

FSIS has confidence in American food producers and companies. These companies have a vested interest in making food safety a priority, and have done so for many years. FSIS has been working with industry to provide guidance on food security matters, and on communication and preparedness activities.

FSIS also has armed consumers with the tools they need to protect themselves against foodborne illness. Through continuing food safety education efforts, information on safe-handling and cooking practices has reached a large audience, providing an additional layer of protection. ❖

Dr. Elsa Murano Under Secretary for Food Safety

"As you see, we have made significant progress in enhancing food security. USDA/FSIS has had a strong and vibrant infrastructure in place for many decades that has helped us cope with intentional threats to the food supply. In the post 9/11 environment of detecting emerging threats and preparing for the unknown, vulnerability assessments play a key role in helping us implement the most effective countermeasures to prevent a terrorist attack on the meat, poultry and egg products supply."



The Wright Research

By Charles Culbertson
Media Relations, James Madison University

A terrorist slips into a Virginia food processing facility after hours. There is no fence to slow him down, no security guard to stop him, no alarm system to scare him off. He opens a vial containing biological waste, or perhaps deadly chemicals. It might even hold something as basic as metal shavings.

Dumping the contents of the vial into a vat of food that will be processed the next day, he leaves undetected and waits for people to sicken and die.

Unfortunately, all too many Virginia food processing plants may be precisely that vulnerable. But before security measures can be put into place, authorities need to know just how widespread the lack of security is. Which facilities, for example, employ a full range of protective measures, from fences and guards to alarms and emergency plans? Which have none? Where are all of these facilities located and what do they produce?

Stephen Wright, a professor of geographic science in the Integrated Science and Technology department at James Madison University, is seeking to answer these and many other questions and - in the process - plug up security holes in the commonwealth's food production. Wright intends to do so by creat-

ing what he believes is the first database of its kind in Virginia and possibly in the nation.

He is assisted by a student team consisting of James Garrity, Michael Aquilino and Thomas Vought (now a graduate student at Kansas State University).

"The project got started when the Institute for Infrastructure and Information at JMU announced that it was looking for project proposals that in some way related to homeland security," Wright said. "I came up with an idea for a database that would identify food processing facilities and their levels of security and submitted my proposal the next day."

The first step in creating what Wright officially calls the Food Processing Threat and Vulnerability GIS Database Development Project was to identify and locate every corporate food processing facility in the state. That was no small task when you consider there are more than 1,400 of them, of every conceivable size, and tucked away in every nook and cranny of the commonwealth.

That phase of the project, using GIS software, has been completed. With a computer keystroke, Wright is able to show a digitized overlay map showing every food

Professor
Stephen Wright is
Co-Director of the
Applied Spatial
Research Center
at James Madison
University



processing plant in the state. Another keystroke shows only those that process poultry; or beef; or venison; or spices; or beverages; or any of dozens of other types of food.

"The second phase of the project, which has yet to be completed, will be to develop what I call a database classification system," Wright said. "In other words, the database will incorporate federal and state licensure information, commercial processing data and information on the spatial extent of each plant's distribution."

And finally, Wright said, the project will be made available to agencies, individuals and organizations with a need to know the security setup of food processing facilities. He stressed that because the information contained in the database could easily be used to breach the security of plants, it will be closely guarded and not be made accessible to the public.

When the database is completed, those with a need-to-know will be able to find (*Continued, Page 15*)

Rutgers' Food Policy Institute: Providing a Macro View to Decision Makers



The Food Policy Institute (FPI) is an academic research unit of Rutgers,

the State University of New Jersey. Founded in 1999, the FPI's mission is to bring the depth of academia's knowledge to bear on pressing issues and challenges facing the food system by providing timely and relevant research that is responsive to the needs of government, industry and the consumer.

The FPI's focus is on the Mid-Atlantic region, but the institute embraces an inclusive view of the food system that applies to all geographies. FPI defines the food system as one that operates "from farm to fork" and encompasses the increasingly interdependent processes of how food is regulated, produced, distributed, sold and consumed.

Recognizing that none of these processes exist in a vacuum, the institute views its role in food policy research as supporting

public and private decision makers who shape aspects of the food system within which government, agriculture, industry and the consumer interact. FPI is a one-of-a-kind resource for comprehensive and objective research related to food regulation, legislation, production, distribution and consumption locally, nationally and globally.

FPI is internationally recognized for its expertise in food biosecurity and bioterrorism.

After the events of 9/11, FPI initiated research relating to bioterrorism and the food system. To date, research objectives include: (1) examining historic incidents of deliberate and acci-

dental disruptions in the food chain; and (2) assessing the potential economic and trade impacts of terrorism on the food system.

In a multi-phased effort, FPI assessed the level of food industry awareness of the Bioterrorism Act of 2002. As the legislation was being developed, FPI provided outreach to the industry by hosting telecasts of FDA public meetings on the Act and developing reports on the Act and its potential impacts. The Institute's report, *The Impact of the 2002 Bioterrorism Act on the New Jersey Food Industry*, has received national and international circulation and media coverage. ❖

In the greater Mid-Atlantic region, the \$280 billion food system sustains 46 million residents and is a key component of the national and international food production and distribution infrastructure. The vulnerability of this critical infrastructure and the potential human health, economic, and psychological impacts of a purposeful effort to adulterate or disrupt the food supply has emerged as a significant concern.



Dr. Calum Turvey
Director, FPI

Food and Ag Sector (*Cont. from Page 3*) borders spanned as outlined in HSPD-10, and the Food and Agriculture sector's interdependency on other sectors is obvious and extensive.

There are some efforts underway to combine some of the responsibilities at the federal government level. In June 2004, Sen. Richard J. Durbin, (D-III.) introduced a bill to the Senate that would bring the various federal safety programs dealing with the Food and Agriculture sector into one agency. In October, Rep. Rosa DeLauro (D-Conn.) introduced a similar bill to the Congress.

III. Government Initiatives and Publications

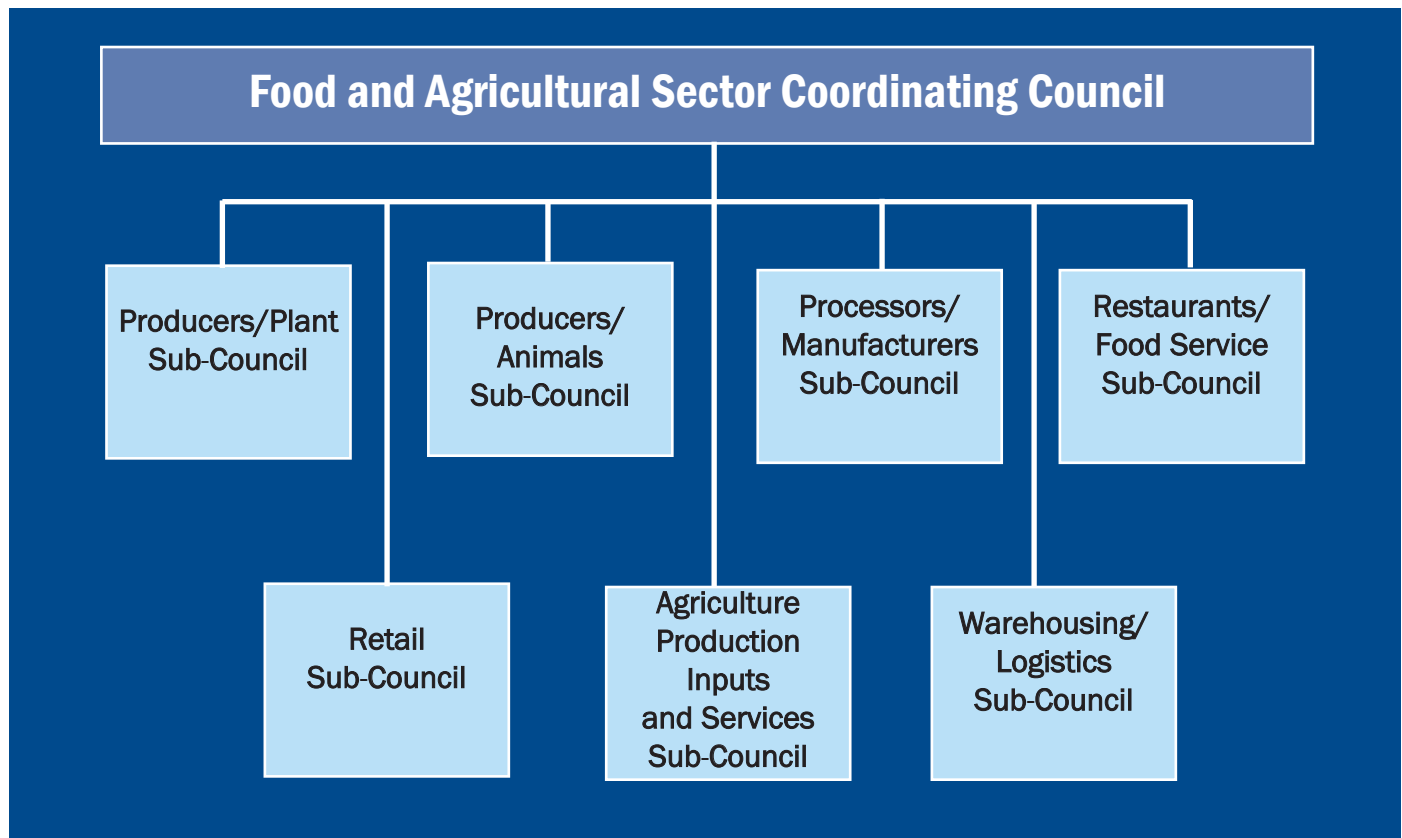
The following is a short summary of some of the recent govern-

ment publications, initiatives and legislation:

- Last week, the Department of Homeland Security released its National Response Plan. The Food and Agriculture Incident Annex, the portion of the NRP that "describes incident management activities related to a terrorist attack, major disaster, or other emergency involving the Nation's agriculture and food systems," will be published in a later version of the NRP.
- HSPD-7's establishment of Sector Specific Agencies assigned USDA jurisdiction over the nation's agriculture and its meat, poultry, and egg products. HHS was tasked to handle all other foods that do not fall under the USDA's assignment. The EPA will focus on

drinking water.

- HSPD-9 focused entirely on the Food and Agriculture sector. It included the Department of Interior to assist in monitoring and surveillance efforts for the sector along with EPA, HHS, and USDA. More on HSPD-9 can be found on page 9.
- In response to HSPD-9, Homeland Security Advanced Research Project Agency, the funding arm of DHS' science and technology directorate, is preparing the Food Biological Agent Detection Sensor (FBADS) program. The program solicits systems that must be "rapid, high-confidence," detecting "biologic microbial and/or toxin threat in order to enable advanced strategies to protect individuals from exposure and reduce contamination of (*Continued, Page 15*)



Current Members of the Food and Agricultural Sector Coordinating Council*

Producers/Plant Sub-Council

Almond Board of California
 American Farm Bureau Federation
 American Feed Industry Association
 American Forest and Paper Assoc.
 American Mushroom Institute
 American Nursery and Landscape Association
 American Peanut Council
 American Soybean Association
 American Spice Trade Association, Inc.
 American Sugar Alliance
 CF Industries, Inc.
 Concord Grape Association
 CropLife America
 Hop Growers of America
 IMC Global
 International Fresh-cut Produce Assoc.
 National Association of Farmer Cooperatives
 National Association of Wheat Growers
 National Coffee Assoc. of USA, Inc.
 National Corn Growers Association
 National Cotton Council
 National Grain and Feed Assoc.
 National Grain Sorghum Producers
 National Grain Trade Council
 National Institute of Agricultural Security
 National Peanut Council
 National Potato Council
 Produce Marketing Association
 Society of American Florists
 Tea Association of the USA, Inc.

Processors/Animals Sub-Council

Producer/ Owner-Operator Organizations:

American Farm Bureau Federation
 American Horse Council
 American Meat Institute
 American Rabbit Breeders Association
 American Sheep Industry Association
 American Veal Association
 Catfish Farmers of America
 Holstein Association USA, Inc.
 National Cattlemen's Beef Association
 National Chicken Council
 National Farmers Union
 National Fisheries Institute
 National Milk Producers Federation
 National Pork Board
 National Pork Producers Council
 National Turkey Federation
 National Aquaculture Association
 North American Elk Breeders Association
 Murphy-Brown, LLC.
 United Egg Association
 United Egg Producers
 U.S. Poultry & Egg Association
 Livestock Marketing Association

Affiliated Industry Groups:

American Dairy Science Association
 American Feed Industry Association
 American Association of Equine Practitioners
 American Association of Swine Veterinarians
 American Meat Institute
 American Society of Animal Science
 Animal Health Institute
 American Veterinary Medical Association
 Association of Veterinary Biologics Companies
 Association of American Veterinary Medical Colleges
 Council for Agricultural Science and Tech
 Federation of Animal Science Societies
 Livestock Exporters Association of the USA
 National Institute for Animal Agriculture
 National Grain and Feed Association
 National Institute for Animal Agriculture
 National Institute for Agricultural Security
 National Renderers Association
 U.S. Animal Health Association

Processors/ Manufacturers Sub-Council

American Association of Meat Processors
 American Bakers Association
 American Feed Industry Association
 American Frozen Food Institute
 American Meat Institute
 American Spice Trade Association, Inc.
 Anheuser Busch
 Association for Dressings and Sauces
 Association of Food Industries
 Beer Institute
 Biscuit & Cracker Manufacturers Assoc
 Chocolate Manufacturers Association
 The Coca-Cola Company
 ConAgra Frozen Prepared Foods
 Corn Refiners Association, Inc.
 Council for Responsible Nutrition
 Dean Foods Company
 Distilled Spirits Council of the US
 Flavor & Extract Manufacturers Assoc
 General Mills, Inc
 Grocery Manufacturers of America
 H. J. Heinz Company
 Independent Bakers Association
 Institute of Shortening and Edible Oils
 International Bottled Water Association
 International Dairy Foods Association
 International Food Additives Council
 International Formula Council
 International Fresh-Cut Produce Assoc.
 International Jelly & Preserve Assoc.
 Kraft Foods, Inc
 McCormick & Company, Inc

National Assoc. of Margarine Manufacturers
 National Coffee Assoc. of USA, Inc
 National Confectioners Association
 National Fisheries Institute
 National Food Processors Association.
 National Grain and Feed Assoc.
 National Institute of Oilseed Products
 National Milk Producers Federation
 National Oilseed Processors Association
 National Pasta Association
 National Renderers Association, Inc.
 National Soft Drink Association
 Nestle USA, Inc.
 North American Meat Processors
 North American Millers Association
 Pacific Seafood Processors Association
 PepsiCo Beverages and Foods
 Pet Food Institute
 Processed Apples Institute
 Publix Super Markets Incorporated
 Snack Food Association
 Soy Foods Association
 The Sugar Association
 Tea Association of the USA, Inc.
 The Kroger Company
 Tyson Foods, Inc.
 United Fresh Fruit & Vegetable Assoc.
 US Tuna Foundation
 Vinegar Institute

Restaurants/Food Services

National Restaurant Association
 National Food Service Security Council
 National Council of Chain Restaurants
 International In-Flight Food Service Association
 International Franchise Association
 American Hotel & Motel Association

Retail Sub-Council

Food Marketing Institute
 Inflight Food Service Association
 National Association of Chain Drug Stores
 National Association of Convenience Stores
 National Grocers Association
 National Retail Federation

Warehousing and Logistics Sub-Council

American Frozen Food Institute
 Council of Logistics Management
 Food Marketing Institute
 Grocery Manufacturers Association
 International Association of Refrigerated Warehouses
 International Foodservice Distributors Assoc
 International Warehouse Logistics Assoc
 National Food Processors Association
 (Continued, Page 16)

Food and Ag Sector (Cont. from Page 13) critical infrastructure."

The systems must produce analysis in 20 minutes or less and must cost no more than five dollars per test. The FBADS' statement of work is currently in its draft form.

- Less than three months after HSPD-9's release, the White House issued HSPD-10, "Biodefense for the 21st Century." HSPD-10 establishes three pillars of the nation's Biodefense Program: (1) Threat Awareness, (2) Prevention and Protection, Surveillance and Detection, and (3) Response and Recovery. The Prevention portion of the Directive extends beyond the nation's borders, calling upon strengthened

diplomacy efforts and multilateral export controls.

- Congress has created two bills focusing on the nation's bio-safety. They first passed the Bioterrorism Act of 2002. In December 2004, the FDA unveiled its regulations for food manufacturers, processors, distributors, and those who transport food. Companies have between one to two years to comply with the new standards, based on the size of the company.

- In July 2004, President Bush signed Project BioShield into law, Congress' second bill created to increase the nation's bio-safety. Project BioShield focuses on the quick dissemination of vaccines to

the population in the case of a biological, chemical, or nuclear attack.

Coordinating hundreds of industry representatives and several government agencies at the federal and state level is a monumental task. In spite of the complexities of the task, both the private sector and the government have begun to address protection of the Food and Agriculture Sector and are continuing to organize to address the critical infrastructure needs. The CIP Program is pleased to be involved in the process. ❖

For more information, please contact Rod Nydam, Associate Director, Private Sector Programs.

Wright Research (Cont. from Page 11) each facility by name and where it is located; learn the size of the facility, the type of commodity it produces and its age; determine whether or not it is licensed by the state or federal government; and assess the level of internal and external plant vulnerability.

From a security standpoint, users of the database will be able to tap into information about fences, alarms and human guards; potential non-standard entry points; the operational status of the plant (does it operate around the clock?); location of internal threat points; and - last but not least - the personnel/worker threat status index.

"This is an element of security in our food processing plants that not many people have given any thought to," Wright said. "Who are you hiring? If you have no way of controlling the personnel who come on board with your company, then the internal threat becomes just as real as the external threat.

He said it is vital for Virginia - and the United States - to focus first on domestic food production, secondly on imported food. "We can always cut off something that's coming to us from other nations," he said, "but it's much more difficult to cut off something that's being developed domestically. That's why it's so important to close up these secu-

rity gaps. The potential for disaster is huge, and we want to reduce that potential as much as possible before we have an incident that sickens or kills hundreds, maybe even thousands of people."

Funding for the food processing security database is not complete. Wright has developed the first part with grant money from I3A, and is currently writing a proposal that will petition Virginia's department of public health for additional funds. With complete funding, he said, the database can be ready for use within a year.

"It's too important not to pursue," Wright said. ❖

FASCC Members (Continued from Page 14)

National Grocers Association
Warehousing Education & Research Council

Agriculture Production Inputs and Services Sub-Council

Agricultural Retailers Association
American Council of Independent Labs
American Farm Bureau Federation
American Seed Trade Association
CF Industries
Crop Life America
IMC Global
Monsanto
National Agriculture Aviation Association
National Council of Farm Cooperatives
National Grain and Feed Association
North American Equipment Dealers Assoc
RISE
Syngenta
The Fertilizer Institute
USA Rice Federation

**New members are joining the FASCC on a consistent basis.*

Bioterrorism (Cont. from Page 8) suppliers and contractors, restricting facility access to outsiders, securing feed and ingredient facilities, and understanding the distribution sequence. These preventative measures can dramatically reduce the risk of a bioterrorism incident to our food infrastructure.

That sunny September day in 2001 served as more than just a wake-up call about the need to tighten security at and around our nation's airports - it also served as a call to be proactive in protecting all our critical infrastructures to include our food supply from terrorist threats. ❖

Goodlatte (Cont. from Page 4) trained agent. Previous policy allowed for specialists in various fields, including agriculture, to have a presence at these checkpoints. The current initiative allows for "one face at the border", which is a cause of concern for many. Congressman Goodlatte stated that his committee would aggressively oversee the actions taken by the Department of Homeland Security in this area, and help to ensure that all necessary

precautions are taken.

In speaking with the Congressman, it became clear that the House Committee on Agriculture places a high priority on security and preparedness issues and has provided many significant contributions in this field. Under his leadership, this committee will no doubt continue to play a vital role in protecting the agriculture and food sector. ❖

Centers of Excellence (Cont. from Page 7) States Agriculture and Food, issued on January 30, 2004. The Department of Homeland Security and its academic partners will work closely with the Departments of Agriculture and Health and Human Services to ensure the success of these important efforts.

ties bring together the nation's best experts and focus its most talented researchers on a variety of threats that include agricultural, chemical, biological, nuclear and radiological, explosive and cyber terrorism as well as the behavioral aspects of terrorism.

The HS-Centers program, which is operated by the Department's Science and Technology Directorate, is establishing an integrated network of university-based centers that will conduct multi-disciplinary research and develop innovative educational programs for critical Homeland Security missions. Through this program, Homeland Security and partner universi-

In November 2003, the University of Southern California, partnering with the University of Wisconsin at Madison, New York University, North Carolina State University, Carnegie Mellon University and Cornell University was chosen to house the first HS-Center, known as the Homeland Security Center for Risk and Economic Analysis of Terrorism Events. Their efforts will now also include support of these agro-security Centers of Excellence. ❖

The CIP Program is directed by John A. McCarthy, a member of the faculty at George Mason University School of Law. The CIP Program works in conjunction with James Madison University and seeks to fully integrate the disciplines of law, policy, and technology for enhancing the security of cyber-networks, physical systems and economic processes supporting the nation's critical infrastructures. The CIP Program is funded by a grant from The National Institute of Standards and Technology (NIST).

The CIP Report is published by Zeichner Risk Analytics, LLC on behalf of the CIP Program. ZRA is the leading provider of risk and security governance knowledge for senior business and government professionals. ZRA's vision is to be a consistent and reliable source of strategic and operational intelligence to support core business processes, functions, and assurance goals.

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