

AGROTERRORISM'S PERFECT STORM: WHERE HUMAN ANIMAL DISEASE COLLIDE

HEARING

BEFORE THE

SUBCOMMITTEE ON PREVENTION OF
NUCLEAR AND BIOLOGICAL ATTACK

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COMMITTEE ON HOMELAND SECURITY
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CONTENTS

	Page
STATEMENTS	
The Honorable John Linder, a Representative in Congress from the State of Georgia, and Chairman, Subcommittee on Prevention of Nuclear and Biological Attack	1
The Honorable Charlie Norwood, a Representative in Congress from the State of Georgia	3
The Honorable David Scott, a Representative in Congress from the State of Georgia	23
The Honorable John Barrow, a Representative in Congress from the State of Georgia	4
WITNESSES	
Dr. Lonnie King, Senior Veterinarian, Centers for Disease Control and Prevention, U.S. Department of Health and Human Services:	
Oral Statement	14
Prepared Statement	16
Dr Edward Knipling, Administrator, Agricultural Research Service, U.S. Department of Agriculture:	
Oral Statement	6
Prepared Statement	9
Dr. Jeff Runge, Chief Medical Officer, U.S. Department of Homeland Security:	
Oral Statement	12
PANEL II	
Mr. Gary Black, Member, Georgia Rural Development Council, State of Georgia:	
Oral Statement	40
Dr. Corrie Brown, Josiah Meigs Distinguished Teaching Professor, School of Veterinary Medicine, University of Georgia:	
Oral Statement	31
Prepared Statement	33
Dr Paul Williams, special Assistant, Office of Homeland Security, State of Georgia:	
Oral Statement	37
Prepared Statement	39

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HOUSE OF REPRESENTATIVES,
COMMITTEE ON HOMELAND SECURITY,
SUBCOMMITTEE ON PREVENTION OF NUCLEAR AND
BIOLOGICAL ATTACK,
Washington, DC.

The Subcommittee met, pursuant to call, at 1:05 p.m., in the Hugh Masters Hall, Center for Continuing Education, 1197 Lumpkin Street, Athens, Georgia, Hon. John Linder [Chairman of the Subcommittee] presiding.

Present: Representatives Linder, Norwood, Scott and Barrow.

Mr. LINDER. The Committee on Homeland Security, Subcommittee on Prevention of Nuclear and Biological Attack will come to order.

I would like to ask for unanimous consent the members of the Georgia delegation with us today to join in this hearing. Without objection, so ordered.

The Subcommittee is meeting today to hear testimony on agroterrorism.

I want to thank our distinguished panel of witnesses for traveling here today, as well as the University of Georgia for graciously hosting this hearing.

The potential impact of an agroterrorist attack on animal health, the agricultural community and the economy at large is frightening to comprehend. An attack on our food supply, for example, would lead not only to direct consequences on human and animal health, but also a dramatic long-term psychological and economic effect on the nation's agribusiness community.

In Georgia alone, the agriculture industry ranks as the most important sector of our economy with approximately one in six Georgians working in agriculture, forestry or a related field.

Today, this Subcommittee will focus on a particular agroterrorist threat that could impact both animal and human health, the threat of zoonotic agents, diseases that can be transmitted from animal to human, are particularly relevant given the emergency of a highly pathogenic avian influenza in southeast Asia, Africa and Europe. However, avian flu is not the only agent that can be transmitted from animal to human. In fact, of the agents on the CDC's list of most dangerous pathogens, smallpox is the only one not considered to be zoonotic. Thus, it would appear that keeping our farms safe is key to keeping ourselves safe as well.

Building firewalls designed to prevent zoonotic agents from emerging on our farms, our markets or even our tables is a challenging goal that requires multiple layers of defense. Preventing the entry of foreign disease into the country through our borders is the first line of defense and we must have adequate inspection and quarantine facilities at our border and ports of entry. In addition, we must focus on people with the intent to conduct acts of malevolence.

I have often said that we focus too much on responding to potential things. There are an infinite number of things that terrorists can use to cause us harm. There are a finite number of people willing to do it. Perhaps we should be looking for people instead of things.

This is especially true for agroterrorism. We must be able to link the threats to U.S. agriculture gathered by the intelligence community with the targeted actions the agriculture community must take to prevent and prepare for an attack.

Additionally, the vigilance from our farmers will be critical. Farmers will be called to serve as both first responders and first preventers. They will be the first to detect the emergence of the zoonotic disease, the first to report an agroterrorist attack and the first to respond to either evil.

To aid the agriculture community, we must have solid research into how to prevent an agroterrorist attack and, more importantly, how to minimize its impact. Institutions like the University of Georgia, for example and the research underway at the College of Agriculture and Environmental Sciences and the College of Veterinary Medicine, are vital in further understanding infectious diseases.

The Centers for Disease Control and Prevention located in Atlanta and the USDA research facilities in Atlanta and around the state are also providing leading research in this field.

I cannot emphasize enough that prevention is the only government action that will ensure failure for those who wish to harm our people and our way of life. As such, I look forward to hearing the testimony of our witnesses and hearing what respective agencies are doing to address this vitally important issue.

I now ask unanimous consent to recognize a friend of 32 years who I met in this campus in December of 1974 when we were both elected to the Georgia House. My friend David Scott.

Mr. SCOTT. Thank you very much, Chairman Linder. This is indeed a pleasure and an excellent opportunity for us to come to the University of Georgia. It is very timely and very appropriate that we have this hearing here because the University of Georgia has been at the forefront of this area of making sure we are safe in terms of any bioterrorism, and of course the agricultural importance to our state and the tie that has to the University of Georgia certainly is evident from the many, many accomplishments that the University of Georgia has done. And of course, in this region, have the Centers for Disease Control located here in this region is vitally important as we bring all of these two together.

We have some extraordinary expert panelists, we are certainly looking forward to them giving us the latest information that they have.

An ounce of prevention is worth a pound of cure. I cannot begin to tell you, as a member of the Agriculture Committee and now the Ranking Member on our Subcommittee in Livestock, Horticulture and Crops, we are vitally concerned about protecting our food supply line. If we have a weak link now in the fight on terror, this is it.

So this is very timely. I look forward to it. Mr. Chairman, thank you for having me join you.

Mr. LINDER. I thank the gentleman.

It is against the rules of the Committee to have other people make opening statements but I will ask unanimous consent to allow that to happen for our other two guests on the panel. Dr. Norwood.

Dr. NORWOOD. Thank you very much, Mr. Chairman, I appreciate being recognized today to participate in your hearing. I appreciate the courtesy you have extended in allowing all of us to join in this most important, vital hearing, and I welcome you back to your district, your old district and I welcome you back to my old district and I welcome you to John Barrow's district and I welcome you to my new district.

[Laughter.]

Dr. NORWOOD. So we are really happy to be in Athens, Clarke County today.

The Subcommittee on Prevention of Nuclear and Biological Attack could not have picked a more appropriate location to explore the federal government's strategy to combat agro- and bioterrorism. The issue is of paramount importance to every citizen in the state of Georgia and I am pleased that you had the foresight to bring the message directly to the folks who are working on the front lines in this very critical issue.

It has been said that our nation's agricultural infrastructure represents the soft underbelly of our homeland security network. Unlike many sectors of the nation's economy, such as aviation, American farmers and agribusinesses are linked together through a diffuse system that does not lend itself to security oversight from any one particular governmental agency. This arrangement in the private sector allows American agriculture to provide the highest quality and reliable source of food to citizens throughout the world. After all, American farmers, ranchers and producers already generate a one trillion dollar economy, including more than \$50 billion in exports. In the state of Georgia alone, the poultry industry's annual contribution to the statewide economy exceeds more than \$13.5 billion. That staggering figure ought to raise an eyebrow. But consider this—if Georgia were an independent country, we would rank as the world's fifth largest poultry producer just behind the country of Mexico. That is serious business in the 10th District of Georgia and in this state. It, therefore, is not a stretch to say that the agricultural industry continues to serve as the backbone of the statewide economy in Georgia.

However, it also provides the enemies of freedom with an attractive target for acts of international terrorism. The Department of Homeland Security, U.S. Department of Agriculture, Centers for Disease Control, all play an important role in protecting the American agricultural industry from such an attack.

Yet no single agency currently has the ability to simultaneously defend against the threat of a terrorist attack on agriculture, prepare the federal response to an attack and then protect the American people from a potentially catastrophic disruption in the food chain.

In the event of an attack, any break in the chain connecting the three federal agencies will put American lives at risk. It is nothing short of critical to address this potential breach and I am so pleased that the Department of Homeland Security is moving forward with a plan to establish an integrated biological and agricultural defense facility. The National Bio and Agro-Defense Facility, NBADF—I hate those acronyms—as the project is commonly known, is simply just what the doctor ordered. And it goes without saying that the University of Georgia can and should play a role in the establishment of NBADF.

The University's property off College Station Road already houses the U.S. Department of Agriculture's Richard B. Russell Research Center, Southeast Poultry Research Laboratory and offers a convenient transportation link to the Centers for Disease Control in Atlanta via Highway 316.

In addition to the deep knowledge of the University's faculty and working relationship with the private sector, the combination of existing government and university-based resources will allow NBADF to quickly take root in the community and achieve its mission.

I know you share my opinion, Mr. Chairman, so I will not belabor this point. But I do want to take the opportunity to thank you once again for allowing us to play a role in today's hearing. The issue that the Committee's esteemed witnesses will discuss today are important to my constituents in the 10th District and I look forward to the testimony.

Mr. LINDER. The gentleman from Athens, Georgia is recognized, Mr. Barrow, for five minutes.

Mr. BARROW. Thank you, Mr. Chairman, and thank you for holding this hearing on this very important subject here at the University of Georgia and thank you for extending the courtesy to me as the member who has the privilege of representing this community for the time being, participation in your Committee hearing. It was your community yesterday, it is my community today, it will be Congressman Norwood's community tomorrow. The thing I want to emphasize is that institutions like the University of Georgia are kind of like those "be" employees, they be here before we here, they be here while we are here and they be here after we are gone. And I think it is up to us to try and provide institutions like the University of Georgia all the resources they need in order to help make us secure.

Agroterrorism is a subject that needs a lot more attention I think than it has gotten recently. A terrorist attack on the agriculture industry in this country could be a low-cost but incredibly highly effective means of destroying the economy of the United States, and that is right up Al Qaeda's alley. No industry is more American than agriculture and none is more vital to our economy.

It has already been noted, agriculture accounts for about a trillion dollars in annual economic activity in this country and creates

one-sixth of our gross national product. One in eight Americans work in agriculture. And to bring the point home, here in Georgia, one in six citizens work in agriculture. According to a 2003 Senate Committee on Governmental Affairs Report, we have evidence that agriculture and food are potential Al Qaeda targets since 2002. That is when we found in terrorist hideouts in Afghanistan agricultural documents and manuals describing ways to make animal and plant poisons.

In December of 2004, then Secretary of Health and Human Services Tommy Thompson said "For the life of me, I cannot understand why the terrorists have not attacked our food supply because it is so easy to do."

According to the Congressional Research Service, agriculture has several characteristics that pose unique problems for managing our response to this threat. Agriculture production is spread out in unsecured environments all over the country. Livestock are usually concentrated in confined locations and then moved and commingled with other herds.

Pest and disease outbreaks can bring economically important exports to a screeching halt. Many veterinarians lack experience with foreign animal disease that are resilient and endemic in foreign countries. The global economy and increased imports of agricultural products and foreign travelers in this country increase the possibilities for introducing foreign, invasive agricultural pests and diseases such as avian flu and foot and mouth disease.

It is critical to our economy and to our homeland security that the government does everything possible to prevent either accidental or deliberate introduction of potentially destructive organisms in the United States.

Congress and the Administration have done a lot since 9/11 to protect the agricultural industry from the natural or manmade attack. Congress held hearings and enacted laws, Homeland Security Department has been created. The Executive Branch has issued new directives creating liaison and coordination offices. All that has happened. When you add up the regular annual appropriations, the supplemental appropriations and the user fees that have been adopted to address these programs, for both the Department of Agriculture and the Department of Homeland Security, funding for ag security has grown by 44 percent over four years, from \$552 million in fiscal year 2002 to \$797 million in fiscal year 2006. And while all these things are positive, we still have a long way to go to make sure that resources are being utilized effectively. And one of the things I hope we can address today is some of the concerns about how we are utilizing resources that have been allocated so far.

On May 19 of this year, the General Accountability Office released a report at the request of Congress on the inter-agency coordination between the Department of Agriculture, the Department of Homeland Security regarding ag inspections. While the report cited some positive improvements in inter-agency coordination since the creation of Homeland Security, the report cited problems in several areas that I hope we can address. For example, the Department of Homeland Security had not developed performance measures for agricultural inspections, but is still using USDA Ani-

mal and Plant Inspection Service measures, which did not reflect all of DHS's activities.

Staffing and related staffing performance measures are also lacking.

Agriculture specialists are not always notified of urgent inspection alerts issued by APHIS. A survey suggests that only 21 percent of agriculture specialists receive alerts in a timely manner.

The number of canine units has gone down from 140 to 80. And since the transfer to DHS, some 60 percent of 43 canine teams that were tested failed in APHIS proficiency tests.

There are financial management issues. User fees are less than program costs. DHS was unable to provide APHIS with information of actual cost by type of activity and USDA has sometimes been slow to transfer user fees to DHS.

I am glad that members of the Ag Committee, Congressman Scott and I, were able to attend this hearing, and I look forward to working with you, Mr. Chairman, and with my colleagues to help fix some of the inter-agency problems between the Department of Homeland Security and the Department of Agriculture mentioned in the General Accountability Office's report.

Once again, thank you for letting us participate and I look forward to the testimony of the witnesses today.

Mr. LINDER. Thank you.

We are pleased to have before us today a distinguished panel of witnesses on this important topic. I would like to remind the witnesses that your entire statement will appear in the record. We would like to ask you to keep your comments to no more than five minutes.

Our first witness today is Dr. Edward Knipling. Dr. Knipling is the Administrator for USDA's Agricultural Research Service, has held several positions with the USDA since 1968.

Dr. Jeff Runge is the Chief Medical Officer for DHS and a former of the National Highway Traffic Safety Administration as well as being a frequent guest in front of this Committee.

The final witness is Dr. Lonnie King. Dr. King is the Senior Veterinarian at the Atlanta based Centers for Disease Control and Prevention. He is a former dean of the Michigan State University College of Veterinary Medicine and Administrator for the USDA's Animal Plant Health Inspection Service.

Dr. Knipling is recognized for five minutes.

STATEMENT OF DR. EDWARD KNIPLING, ADMINISTRATOR, AGRICULTURAL RESEARCH SERVICE, U.S. DEPARTMENT OF AGRICULTURE

Dr. KNIPLING. Well, thank you, Mr. Chairman and members of the Subcommittee. My name is Edward Knipling, I am the Administrator of the USDA Agricultural Research Service. ARS is the intramural science research arm of USDA and we operate over 100 laboratories across the nation on all aspects of agricultural science. In fact, as has already been pointed out by members of the Subcommittee, one of our primary research locations is right here in Athens, in cooperation with the University of Georgia. And one of our principal activities here in Athens deals with poultry diseases

which is very much related to the subject matter of this hearing. I will say more about that work in a few minutes.

But I would first like to thank the Subcommittee for the opportunity to appear before you today to present testimony about ARS's research to prevent agroterrorism, especially zoonotic threats. Zoonotic diseases represent an ongoing threat to animal agriculture and public health. The pathogens causing these diseases propagate first in some livestock and other animal species, potentially causing severe economic harm before spreading to humans. And this is a significant reminder that protecting the health of livestock and the entire U.S. food and agricultural enterprise is an important part of protecting human health and homeland security. In other words, helping to prevent the perfect storm, as this hearing is entitled.

Mr. Chairman, in light of the significance of these threats, I am pleased to share with you recent ARS research efforts to develop new knowledge and technology to help prevent and prepare for zoonotic diseases.

In the current fiscal year, 2006, ARS is spending approximately \$100 million on food and agricultural defense, which is about nine percent of our total annual appropriation. While there are many zoonotic diseases that could be considered in this hearing, I have selected the ones that we believe could be the most serious threats to American agriculture.

The current strain of high pathogenic avian influenza being founds in parts of the world has resulted in the death of at least 150 million domestic and wild birds. ARS scientists in our internationally-recognized Southeastern Poultry Research Laboratory here in Athens, Georgia are conducting extensive research to improve detection methods, develop effective vaccines and monitor the mutations of the disease. Several of these scientists have accompanied me here to these hearings.

In support of the USDA Animal and Plant Health Inspection Service, these scientists have developed and tested a rapid detection method of finding AI infections in live bird markets. This procedure, using modern tools and understandings of molecular biology was also successfully employed in poultry markets in Texas and Virginia that contained avian influenza outbreaks in previous years and has now been distributed to laboratories throughout the United States to use in the future if new avian influenza outbreaks are suspected.

ARS research on AI vaccines has shown how these vaccines can be used most effectively and has provided insights crucial to the development of new vaccines as the virus continues to mutate. Scientists are also evaluating AI viruses from several countries to track if and how mutations occur.

Turning now to other diseases, anthrax, caused by spore-forming soil bacterium can infect livestock, which is sometimes fatal to them. Anthrax spores could be used as a bioterrorism agent in several ways, such as contaminating liquid egg products, milk or beef products.

As you no doubt remember, in 2001, anthrax was successfully deployed as a biological weapon by an unknown perpetrator in letters containing anthrax spores sent to several locations via the U.S. Postal System. Five people died as a result. USDA assisted in the

subsequent monitoring of the potential spore contamination of mail addressed to U.S. government agencies.

ARS is working to prevent anthrax infections by improving detection methods, evaluating spore growth and survival patterns of the spores and developing improved processing techniques to remove and deactivate the bacteria in food.

Additional research is critical for developing improved detection and processing techniques.

Brucellosis, a bacterial disease that devastates livestock worldwide is classified by the United States biodefense community as a potential bioweapon. It causes significant illness and death in animals and humans. Great progress has been made in eradicating brucellosis from the nation's cattle and swine populations over the past 50 years and in helping to control it in some wildlife species.

ARS research on brucellosis has identified specific gene sequences that can be used in developing effective diagnostic techniques and vaccines. Vaccines are being tested on wild and domestic animals and new diagnostic methods are being developed to trace the source of brucellosis outbreaks in the field.

The Rift Valley fever virus transmitted by mosquitos is a biological threat agent of high priority to the U.S. livestock industries. Introduction of this pathogen, intentionally or even accidentally, would be catastrophic to the agricultural economy. North American livestock have no resistance to the virus so it would spread rapidly and result in major bans on U.S. product exports to other countries and non-infected areas.

ARS is developing Rift Valley fever disease detection techniques and evaluating vaccines and control methods.

ARS conducts research on other zoonotic threats that are not officially recognized as bioterrorism agents, even though they could be intentionally used to contaminate food supplies. Working with other agencies within and outside USDA, ARS research focuses on detecting and controlling food pathogens such as E.coli, salmonella and other bacterial pathogens.

Much of this and other ARS food safety research, particularly for poultry and meat products, is also carried out here in Athens at the Richard Russell Agricultural Research Center, named after the late Georgia Senator. The U.S. Food Safety and Inspection Service is also housed with ARS in this center, whom we work very closely with to assure the safety of the food supply.

Here and elsewhere, ARS is also participating with other USDA agencies and the National Swine Production Sector in a surveillance program to monitor bacterial diseases in relationship to farm practices, bacterial populations and the antibiotic resistance levels of these bacteria. This program will serve as a model for future animal disease surveillance efforts on a national level and it also promises to be vital to the Department of Homeland Security's National Biosecurity Integration System and its effort to limit damages to the economy, animal health and public health.

In summary, ARS is pleased to work toward preventing and preparing for agroterrorism and zoonotic diseases. I thank you once again for the opportunity to share some of our research with you.

Mr. Chairman, this completes my brief oral comments and I would be pleased to participate in the question/answer session later.

Mr. LINDER. Thank you, Doctor.

Dr. Runge.

[The prepared statement of Dr. Knipling follows:]

PREPARED STATEMENT OF DR. EDWARD B. KNIPLING

Mr. Chairman and Members of the Subcommittee, I am Edward B. Knipling, Administrator of the Agricultural Research Service (ARS). We are the primary intramural science research agency of the United States Department of Agriculture (USDA). ARS operates a network of over 100 research laboratories across the Nation on all aspects of agricultural science, including crop and livestock protection and food safety research.

Thank you for the opportunity to appear before the Subcommittee today to present testimony about ARS' efforts to prevent agroterrorism, particularly zoonotic threats. I am pleased to inform you of ARS' research to prevent and prepare for these diseases, which are of particular significance as we seek to protect ourselves from agroterrorism. Zoonotic diseases represent an ongoing threat to animals and public health, propagating first in crucial species and potentially causing severe economic devastation before spreading to humans. Agricultural production is geographically scattered in sites that are difficult to protect. Groups of livestock are concentrated in confined locations and then transported and mixed with other groups on their way to market, which can facilitate the spread of disease from one animal to another. Furthermore, as Dr. Julie Gerberding, the Director of the Department of Health and Human Services (HHS) Centers for Disease Control and Prevention (CDC), has stated, "Eleven of the last 12 emerging infectious diseases that we're aware of in the world, that have had human health consequences, have probably arisen from animal sources." This is a significant reminder that protecting the health of our animals is an important part of protecting human health.

Mr. Chairman, in light of the significance of these threats, I am pleased to share with you recent ARS research efforts to prevent and prepare for zoonotic diseases. In fiscal year 2006, ARS spent \$93,799,000 on food and agricultural defense, which was around 9 percent of our total annual budget. While there are many zoonotic diseases that could be considered in this hearing, I am discussing some examples that we believe could be the most serious threats to American agriculture.

Avian Influenza

The current strain of high pathogenic avian influenza (AI) circulating in Asia, Africa, and Europe has resulted in the death of at least 150 million domestic and wild birds that were either killed by the virus or destroyed because they were at risk of being infected. ARS scientists are conducting extensive research to better understand and control existing AI strains. While our focus is on poultry, ARS is also working with other organizations to track mutations that occur in existing AI strains in anticipation of the day when they may evolve into forms that are more contagious and deadly to poultry, other avian species including wild birds, and potentially humans.

The most effective means of controlling many zoonotic diseases is at the source, which in the case of AI is the domestic and wild birds that carry and contract the virus. ARS conducts AI research at its high containment facility in Athens, Georgia. This laboratory is recognized internationally as one of the world's leading AI research centers.

There are several areas of AI that are under active investigation at this time. One key research area is the development of tests to rapidly detect AI infections in chickens and other avian species. ARS worked with the USDA Animal and Plant Health Inspection Service (APHIS) to develop and test a rapid detection method of finding AI infections in live bird markets. Using this test, researchers can determine infection with the H5 or H7 form of the virus in three hours. In addition, this test has proven successful for pen-side screening, pending the development of more sensitive screening tools in progress. This procedure was successfully employed in poultry markets in Texas and Virginia to contain AI outbreaks in previous years, and has now been distributed to laboratories throughout the United States to use in the future if new AI outbreaks are suspected.

ARS research has also supported the development of AI vaccines, which have several use restrictions. For the H5 and H7 sub-types of the virus, vaccine use requires APHIS, USDA, and State approval, along with a USDA license. For other sub-types

of the virus, State approval is required for use. In the United States, immunization is not routinely practiced for trade reasons and because routine vaccination against certain strains is not cost-effective. However, poultry producers are now considering vaccination more often, because immunization against some AI strains can potentially control outbreaks at a lower cost than large-scale culling of poultry.

ARS research includes the development of vaccines to protect poultry from both established and mutating AI viruses. Some types of chickens are protected from AI infection for at least 20 weeks after a single vaccination. Two types of vaccines are currently available, but ARS research has shown that the vaccine must match the AI strain to provide optimal protection against the virus. In addition, if a bird is infected with a certain strain of AI and receives a vaccine developed for that strain, it will shed fewer viruses, which will limit its ability to transmit the infection to other birds. Building on this research, ARS has entered into several Cooperative Research and Development Agreements with private companies to accelerate the development of new vaccines to protect U.S. poultry and their use.

ARS is leading research in demonstrating that the accumulation of mutations in the AI viral genome can reduce the effectiveness of vaccines. As a result, three vaccines have been developed using DNA splicing techniques, and all of them have initially shown promise in protecting against AI. Using these vaccines would allow immunized birds to be distinguished from naturally infected birds, thus reducing trade issues. These new vaccines are now being compared to existing vaccines to evaluate their cost effectiveness.

ARS is also studying AI in free-flying waterfowl by working with collaborators at the Moscow-based International Science and Technology Center. Researchers are collecting samples from wild birds that follow migratory flyways over Russia. This sampling technique allows constant monitoring of AI virus strains, and provides scientists with an early warning system when new strains emerge in wild populations.

AI viruses obtained from the United States, Hong Kong, Italy, El Salvador, Chile, Netherlands, Indonesia, Viet Nam, and South Korea are being evaluated by ARS for their genetic markers, potential virulence, source, and spread. ARS is developing and evaluating techniques to predict which low pathogenicity AI viruses are at greatest risk for changing into high pathogenicity AI viruses.

Working with CDC, ARS has tested proposed human influenza vaccines to make sure they pose no threat to poultry production in the unlikely case the viruses used by commercial manufacturers for vaccine production are accidentally released into the poultry environment. In addition, ARS has shared data on AI vaccines and vaccination with the Food and Agriculture Organization and the World Organization for Animal Health.

Anthrax

Bacillus anthracis is a spore-forming bacterium that can be found in soil and can cause disease - commonly known as anthrax - in livestock and other animals. Anthrax spores could be used as an agroterrorism agent in several ways. This might include intentional contamination of many different types of food including liquid egg products, milk or meat. In addition, humans can become infected by handling products from infected animals, inhaling anthrax spores from contaminated animal products, and consuming meat products from infected animals. Without treatment, the mortality rate for pulmonary anthrax is 70-80%. In many cases, pulmonary and gastrointestinal anthrax is fatal if not treated immediately. However the mortality rate for gastrointestinal infections is not as high, perhaps 50%, and less than 1% for cutaneous, if properly treated.

In 2001, anthrax was successfully deployed as a biological weapon when letters containing anthrax spores were sent to several locations via the U.S. postal system. Five people died as a result, and USDA established a temporary mobile laboratory in Washington, D.C. to assist in examination of suspicious envelopes received at several government agency mailrooms.

ARS works to prevent anthrax contamination of food by improving detection methods, evaluating growth and survival patterns of the spores, and developing improved processing techniques to remove them from and/or deactivate them in liquid egg, milk and meat products. ARS researchers have studied and developed methods for detecting anthrax in milk at various stages during the course of transport and processing. Scientists showed that the Ruggedized Advanced Pathogen Identification Device (RAPID) can be used to detect very low numbers of anthrax in milk. Researchers also determined that high-temperature pasteurization does not sufficiently deactivate anthrax spores in milk. To supplement the pasteurizing process, ARS has developed a micro-filtration process can remove anthrax spores to a level well below infectious thresholds; this process can be used to decrease the likelihood that the milk supply will be harmful. Microfiltration is being used commercially for a variety of reasons, including the removal of bacteria.

Researchers have also studied the survival trends of anthrax when contaminated meat is stored and cooked at various temperatures. The scientists developed models for predicting the growth and survival of the bacteria as well as recommendations for storage and cooking to reduce contamination. Researchers continue to work on improving processing techniques to deactivate anthrax in liquid egg products, where it can also threaten the safety of food. In light of the mortality rates associated with gastrointestinal infection, anthrax research to develop improved detection and processing techniques is critical, and ARS continues to work toward meeting this need.

Brucellosis

Brucellosis has been classified by the United States bio-defense community as a potential agent for bioterrorism, and is one of the most important zoonotic diseases of livestock worldwide. It can cause significant illness and lead to abortion and death in animals and humans. There are several *Brucella* species but many can infect all mammals to some degree. Wildlife, including bison, elk, and feral swine, can carry and transmit brucellosis to domestic animals.

ARS researchers are conducting extensive research on brucellosis at the National Animal Disease Center in Ames, Iowa, with a fiscal year 2006 budget of \$2,987,500. Brucellosis has been subject to an intensive eradication campaign in the U.S. for the last 50 years, and great progress has been made in eradicating it from the Nation's cattle and swine. However, brucellosis has been a tremendous burden for livestock producers. Over the years, Federal and State governments, along with the livestock industry, have spent billions of dollars to control and eliminate the disease.

ARS has been very active in researching Brucellosis. Genetic studies have identified specific genetic patterns in different *Brucella* species, which gives scientists information to use in their search for effective diagnostic techniques and vaccines. Vaccines are being tested on wild and domestic animals to find effective immunization protocols for the treatment of brucellosis and for its eradication in wildlife. Another key area is research into new diagnostic methods that will allow researchers to trace the source of Brucellosis outbreaks in the field.

Rift Valley Fever

When considering both economic and public health implications, the Rift Valley Fever virus is a priority biological threat agent for the U.S. livestock industries. Rift Valley Fever is transmitted by mosquitoes and affects both humans and animals. Rift Valley Fever is more likely to cause severe disease and death in animals than in humans, but human fatality rates as high as 20% have been reported and it can cause severe vision damage, hemorrhaging, and inflammation of the brain in those who survive. There have not been any reported outbreaks in the United States, but an introduction of the virus could be catastrophic to the agricultural economy. The disease has already moved out of East Africa into Egypt, Yemen, and Saudi Arabia. North American livestock have no resistance to the virus, so it would spread rapidly, resulting in major bans on product transport and export from infected areas.

ARS is currently working with CDC and the Department of Defense to develop detection techniques, to evaluate vaccines, and to develop control methods tailored to the cause of infection and the method of transmission. ARS researchers have developed models to detect environmental conditions that may precede disease outbreaks, which will be useful for agricultural and public health officials for enhancing disease surveillance and preparing for an outbreak. Other ARS scientists are studying the mosquitoes that carry the virus to determine natural infection rates and the genetic factors that affect transmission. ARS is also collaborating with the Canadian Food Inspection Agency to develop detection methods and effective vaccines for Rift Valley Fever.

Related Food Safety and Health Research

ARS conducts research to detect and control other biological agents such as *Yersinia pestis* and *Salmonella* species that can be intentionally used to make the food supply unsafe. The knowledge of detection methods, the decontamination process, and control of organism growth that ARS has gained in these research programs all contribute to a better understanding of how to protect against bioterrorism attacks on the agriculture and food system using zoonotic agents.

For instance, ARS has determined that microarray technology is a highly effective means of detecting potential bioterrorism agents. Microarray technology allows researchers to simultaneously test thousands of samples and to discriminate among pathogen species and their different strains. By combining this technology with the Agency's genome sequencing studies, ARS will be able to detect and characterize more than 25 pathogens and toxins that threaten the safety of food. Regarding meat contamination, ARS researchers have determined that ionizing radiation is a highly effective means of deactivating pathogens such as *Yersinia pestis*.

In support of USDA action ARS, in association with the Food Safety Inspection Service, used a tool developed by the HHS Food and Drug Administration, the Department of Defense, the Department of Homeland Security, and the Central Intelligence Agency to assess and predict how vulnerable a certain food system is to attack. This tool considers seven factors: criticality, accessibility, recuperability, vulnerability, effect, recognizability, and shock (CARVER + Shock). By assessing these factors, researchers determine the level of threat that toxins and threat agents pose to a given food system and establish research priorities. In other collaborative efforts, ARS is working with the United States Army to develop portable imaging devices for pathogen detection. ARS is also working with the Food Emergency Response Network Methods Subcommittee to evaluate technologies to be incorporated into a Biosecurity Protocol Manual.

Surveillance

ARS is working with other USDA agencies to develop a surveillance program to determine how farm practices affect bacterial populations and the antibiotic resistance levels of those bacteria. This program will serve as a model for future surveillance efforts on a national level, assisting the Food Safety and Inspection Service, the Food and Drug Administration, and the food animal industry in the production of safe food products. It also promises to be vital to the Department of Homeland Security's National Biosurveillance Integration System and to its efforts to limit damages to the economy, animal health, and public health. The project is conducted by ARS researchers in Ames, Iowa; Athens, Georgia; College Station, Texas; and Beltsville, Maryland.

In summary, ARS is pleased to work toward preventing and preparing for agroterrorism and zoonotic diseases. We thank you for the opportunity to share our research with you. Mr. Chairman, this concludes my remarks. I would be happy to answer any questions.

STATEMENT OF DR. JEFF RUNGE, CHIEF MEDICAL OFFICER, U.S. DEPARTMENT OF HOMELAND SECURITY

Dr. RUNGE. Thank you, Mr. Chairman. I appreciate the opportunity that you and Congressman Scott, Dr. Norwood and Congressman Barrow have given us to talk a bit today about the devastating effects that a bioterror incident could have on our critical infrastructures and our way of life in this country.

The Department of Homeland Security has the duty and indeed is in the unique position to coordinate a one medicine approach between multiple agencies and stakeholders to reach a state of national preparedness that we all seek. DHS is responsible for coordinating the overall national efforts to enhance the protection of our nation's key resources and critical infrastructures—among them, plant and animal agriculture and food—under the National Response Plan, and National Infrastructure Protection Plan. In doing so, we work with our fellow government partners that we have designated as sector-specific agencies; in this case Department of Health and Human Services and the Department of Agriculture.

The specific roles and responsibilities of our federal partners in agrodefense are outlined in the various homeland security Presidential Directives, particular 7, 9 and 10.

We use the National Response Plan and the National Incident Management System to coordinate the federal resources to respond and recover from high consequence events.

DHS's agrodefense activities are housed in several areas of the Department, led by the Preparedness Directorate. Its Infrastructure Protection Office coordinates the various private sector entities with ownership of our national infrastructures and facilitates public/private partnerships to share information and develop and deploy infrastructure shields and mitigation strategies to reduce risk.

The new National Biosurveillance Integration System or NBIS is also part of the Preparedness Directorate. NBIS works with our inter-agency partners to integrate disparate sources of data for a fuller picture of a biothreat as it evolves in real time.

Other DHS directorates and components have vital and distinct responsibilities as well, including intelligence assessments, cargo and traveler inspections at our borders and development of response planning and operations. Specifically, the Science and Technology Directorate, which I had the privilege to lead for the last six months in an acting capacity, conducts material threat determinations and assessments and operates the Plum Island Animal Disease Center, the only facility in the nation that is authorized to handle certain foreign animal diseases. S&T also works closely with USDA, both APHIS and the ARS, to develop decision-making tools, veterinary counter-measures and disease diagnostics for prevention of both accidental and intentional outbreaks.

All these activities, Mr. Chairman, are overseen, will be overseen and coordinated through our new Office of the Chief Medical Officer, which we established late last year. My first hire within the Office of Chief Medical Officer was a Chief Veterinarian and this past Monday, I was fortunate to have another very experienced veterinarian hired as my Director of Veterinary and Agricultural Security, Dr. Tom McGinn, who is with me today.

Mr. Chairman, our world is indeed a very small place. Advances in transportation have made it very easy to transport diseased people, plants and animals legally or illegally throughout the world. Foreign species are being found in the U.S. frequently, with the organisms that they harbor. One of our specific concerns is the transmission of zoonotic diseases from animals to animals and animals to humans. Diseases like tuberculosis, HIV, West Nile, Lyme disease, avian influenza, all of which pose a threat across species, make a compelling case for moving to a one medicine approach to the global spread and control of disease.

This concept is not new. Sir William Osler, back in the 1800s, wrote that "veterinary medicine and human medicine complement each other and should be considered as one."

Consider that 75 percent of the diseases that have emerged in the last 25 years are zoonotic in their origin and around 80 percent of the top biological threat agents are zoonotic diseases. And 11 of the last 12 outbreaks of global concern are zoonotic in origin. Some of these diseases, even if they do not make people sick, can present a challenge to the health and well-being of our human population.

For example, foot and mouth disease or FMD affects only cows, swine, sheep, goats, deer and similar species. But the disease could have a very dramatic effect on our domestic and global economy. Should the disease establish itself in our wild species such as feral swine, it would be almost impossible to eradicate. Our trade could be threatened if our trading partners ban parts from all or part of the country. Some modeling scenarios that we have developed predict that a single point of introduction of FMD could spread very rapidly, affecting millions of animals and costing the economy billions of dollars. Thousands of people could be affected in terms of jobs, income and quality of life.

DHS has focused on performing the necessary research to understand foreign diseases and threats to our nation's agriculture and food supply that might be imposed by natural or man-made sources and to develop the best possible surveillance tools to monitor data from various sources.

Mr. Chairman, a more detailed description of these and other efforts can be found in my written statement, which we submitted for the record and I appreciate the opportunity to be here.

Mr. LINDER. Thank you, Dr. Runge.

Dr. King.

**STATEMENT OF DR. LONNIE KING, SENIOR VETERINARIAN,
CENTERS FOR DISEASE CONTROL AND PREVENTION, U.S.
DEPARTMENT OF HEALTH AND HUMAN SERVICES**

Dr. KING. Thank you, Mr. Chairman and members of the Subcommittee. Good afternoon. I am very pleased to be here today to describe CDC's preparedness efforts to prepare for and respond to agroterrorism and zoonotic threats.

Infectious diseases are a continuing threat to this nation's health. Although modern advances have controlled some of these diseases, certainly outbreaks of SARS, avian influenza, West Nile infection and monkeypox are recent reminders of the extraordinary ability of microbes to adapt, to evolve and to move worldwide. Preventing and controlling infectious diseases such as these require a new global awareness, a focus on the overlap of animal and human health to prevent the emergence, re-emergence and spread of zoonotic diseases, which are diseases transmitted from animals to people.

It is estimated that 75 percent of the new emerging pathogens in humans over the last several decades have zoonotic in origin. Five of the six CDC Category A agents for bioterrorism are zoonotic. So while it is difficult to predict when and where the next zoonotic event may occur, all the critical factors are in place to ensure that this new era of emerging zoonoses, whether they come here naturally or intentionally will continue or may even accelerate into the future.

Bioterrorism is the threat of deliberate introduction of animal or plant disease that would impact the U.S. food system. The health and security of this country depends on our preparedness against terrorism including agroterrorism, as well as other public health emergencies including the threat of zoonotic diseases and vector-borne diseases.

CDC would become involved in an agroterrorism event if an animal disease were introduced that affected human health. We also clearly understand that effective animal health strategies can and do improve public health. And the strategies to protect both need to be coordinated. By partnering with other federal agencies that focus on animal health, with state governments, and with academic and private institutions, CDC is preparing for agroterrorism in the event of a zoonotic incursion. The strategic partnering is focusing on improving the collaboration for detection, for diagnosis, for surveillance, research, training, and strategies for containment and response.

Recognizing the importance of the interface between human and animal health, CDC is proposing a new organizational unit, the National Center for Zoonotic, Vector-Borne and Enteric Diseases, which will bring together similarly focused programs, provide national and international scientific and programmatic leadership in zoonoses, in vector-borne diseases and foodborne, waterborne and other related infections as we try to identify, diagnose and prevent these diseases.

The new center will focus on the continuing challenge of emerging and re-emerging zoonoses and indeed work collaboratively with a broader array of public health organizations such as those involved with agriculture, wildlife and companion animal health.

Today, our world is progressively complex, globally inter-dependent and thus we believe that building strategic alliances between public health and animal health will be a critical skill to address the contemporary challenges produced by the convergence of people, animals and animal products—indeed the world of one medicine and one health that Dr. Runge mentioned.

Our agriculture and food systems seem to be especially vulnerable. Food and agriculture are exceptional national assets, certainly impact trade, commerce, economies and both human and animal health. Food-borne pathogens, whether it is *E. coli*: O157, *Listeria*, *campylobacter*, or the varieties of salmonellosis, move across species lines with ease, causing serious morbidity and mortality. As with other infectious diseases, preparedness for naturally occurring outbreaks of foodborne illness better prepares us for unexpected attacks.

Routine disease surveillance systems coordinated by CDC provide an essential early-warning network to detect dangers in our food supply. In addition, these systems can be used to indicate new or changing patterns of foodborne illness that would likely detect early cases of agroterrorism involving a zoonotic agent.

CDC works with state and local health departments, the USDA, FDA and others to investigate outbreaks caused by foodborne pathogens. Improved surveillance systems have allowed CDC to detect foodborne outbreaks in a matter of days rather than weeks. As a consequence, CDC can more rapidly alert the FDA and the USDA about implicated food products associated with foodborne illnesses so that all three agencies can take protective public health actions.

A public health laboratory infrastructure is also critical in the event of a zoonotic or agroterrorism attack. The Laboratory Response Network, called LRN, created in 1999, has improved the laboratory capacity of the public health system. The LRN is a national network of local, state and federal public health, military, veterinary, food testing and environmental testing laboratories that provide the essential infrastructure and capacity to respond to biological and chemical terrorism and other public health emergencies.

To enhance the linkages between human and animal health, the LRN works with USDA's Animal and Plant Health Inspection System with the laboratory in Ames, Iowa, and the veterinary diagnostic laboratory community.

Preparedness for a zoonotic outbreak is further enhanced in terms of our preparedness through CDC's brand new designation as a World Animal Health Organization*, which is through the

OIE, *(Collaborating Centre for Emerging and Re-Emerging Zoonoses). In this role, CDC will be better equipped to forge strong ties between public health and the animal health sectors to control and prevent zoonoses on a global basis.

In conclusion, the scope, scale and consequences to human and animal health from zoonotic and agroterrorist agents are really unprecedented today. Our animals and their products are inextricably woven with our national economy, with the public's health and well-being. The continuing challenges of zoonoses and agroterrorism are transforming forces, necessitating new partnerships at the interface of human and animal health.

I am pleased to be here today to report on CDC's significant progress to address and to respond to this new reality. And I thank you for the opportunity to participate at this field hearing.

[The prepared statement of Dr. King follows:]

PREPARED STATEMENT OF DR. LONNIE KING

Good afternoon, Chairman Linder and Members of the Subcommittee. I am Lonnie King, the Centers for Disease Control and Prevention's (CDC) Senior Veterinarian, and I am leading the effort to form a new center at CDC focusing on zoonotic, vector-borne, and enteric diseases. I am pleased to be here today to describe CDC's preparedness efforts to prepare for and respond to agroterrorism and zoonotic threats. Before I begin, I would like to briefly mention the significant investments in research, laboratory, public health and hospital surge capacity our nation has made in recent years to protect the American people from naturally-occurring or terror-related threats. The President's FY 2007 Budget includes a four percent increase in bioterrorism spending for a total budget of \$4.4 billion, an increase of \$178 million over last year's level. This increase will enable us to accomplish a number of important tasks. The Department of Health and Human Services (HHS) will improve our medical surge capacity; increase the medicines and supplies in the Strategic National Stockpile; support a mass casualty care initiative; and promote the advanced development of biodefense countermeasures to a stage of development so they can be considered for procurement under Project BioShield.

We also continue to prepare against a possible pandemic influenza outbreak and appreciate your support of \$2.3 billion for the second year of the President's Pandemic Influenza plan, in the FY 2006 Emergency Supplemental Appropriations Act for Defense, the Global War on Terror, and Hurricane Recovery. The President's FY 2007 budget also provides more than \$350 million for important ongoing pandemic influenza activities such as safeguarding the Nation's food supply, global disease surveillance, and accelerating the development of vaccines, drugs, and diagnostics. Finally, it is important to note that HHS funding to enhance State and local preparedness for public health emergencies, including pandemic influenza, has existed since 2001. Principally through CDC and the Health Resources and Services Administration (HRSA) funds have been provided to States and localities to upgrade infectious disease surveillance and investigation, enhance the readiness of hospitals and the health care system to deal with large numbers of casualties, expand public health laboratory and communications capacities and improve connectivity between hospitals, and city, local and state health departments to enhance disease reporting. Including the funding we have requested for FY07, CDC's and HRSA's total investments in State and local preparedness since 2001 will total almost \$8 billion.

Background

Infectious diseases are a continuing threat to our nation's health. Although modern advances have conquered some diseases, the outbreaks of Severe Acute Respiratory Syndrome (SARS), avian influenza, West Nile virus (WNV) infection, and monkeypox are recent reminders of the extraordinary ability of microbes to adapt and evolve. Earlier predictions of the elimination of infectious diseases often did not take into account changes in demographics and human behaviors and the ability of microbes to adapt, evolve, and develop resistance to antimicrobial drugs. In 2003, the Institute of Medicine (IOM) issued a report, "Microbial Threats to Health: Emergence, Detection, and Response," that outlined recommendations on critical issues facing the prevention and control of microbial threats to human health. The IOM described thirteen factors involved in the emergence of infectious diseases. A majority of these factors included agricultural or animal health issues that inevitably af-

fect human health. The report also recognized the growing threat from diseases transmitted by an animal vector and zoonotic diseases—diseases that can be transmitted from animals to humans. The emergence of SARS in 2003 demonstrated that U.S. health and global health are inextricably linked and that fulfilling CDC's infectious diseases mission—to prevent illness, disability, and death caused by infectious diseases in the United States and around the world—requires global awareness and a focus on the overlap of animal and human health.

It is estimated that 75 percent of emerging pathogens are zoonotic in origin. High-priority bioterrorism agents (Category A agents) include organisms that pose a risk to national security because they can be easily disseminated or transmitted from person to person, result in high mortality rates, and have the potential for major public health impact. Five of the six CDC Category A potential agents of bioterrorism are zoonotic. Agroterrorism is the threat of or deliberate introduction of an animal or plant disease that would impact U.S. food systems. CDC would become involved in a response if an animal disease were introduced that affected human health. Vectors, such as insects or ticks, are among the most common conduits for disease transmission from animals to humans. Diseases transmitted by vectors are especially difficult to control, as demonstrated by the rapid spread of West Nile virus, which has so far infected more than 1.2 million Americans. Other examples of vector-borne diseases include plague, tularemia, and many hemorrhagic viruses, like Rift Valley fever. Current examples of this risk are the epidemic of chikungunya virus in the Indian Ocean, the jump of Rift Valley fever from Africa to Saudi Arabia, and outbreaks of dengue along the U.S.-Mexican border. While it is difficult to predict when and where the next zoonotic event will occur, all the critical factors are in place to ensure that this new era of emerging zoonoses—naturally or intentionally caused—will continue or even accelerate in the future.

HHS and CDC Role in Agroterrorism Preparedness and Zoonotic Diseases

The health and security of the United States depends on our preparedness against terrorism, including agroterrorism, as well as other public health emergencies including the threats of zoonotic and vector-borne diseases. These threats necessitate that we improve our public health and medical systems so that we can respond with greater flexibility, speed, and capacity in coordination with state and Federal partners. As SARS and avian influenza have taught us, animal health strategies impact public health, and the strategies to protect both should be coordinated. Because animals and people are inextricably linked, the possibility for exposure to zoonotic diseases is unprecedented and presents new levels of threat and vulnerability.

HHS is responsible for leading Federal public health efforts to ensure an integrated and focused national effort to anticipate and respond to emerging threats from agroterrorism and zoonotic diseases. Within HHS, CDC is gaining a better understanding of zoonotic disease emergence, prevention, and control from quality research. By partnering with other Federal agencies that focus on animal health and with state governments and academic and private institutions, CDC is addressing preparedness for an agroterrorism event due to a zoonotic disease.

Most notably to the public, HHS and CDC are leading the nation in the area of avian influenza preparedness. This work fits within the framework of the National Strategy for Pandemic Influenza Implementation Plan published on May 3, 2006, by the White House Homeland Security Council (HSC), and involves ongoing coordination with the Department of Homeland Security (DHS) and the Department of State (DOS).

National Center for Zoonotic, Vector-Borne, and Enteric Diseases (proposed)

While CDC's activities in avian flu preparedness are the most publicized, they represent only one part of CDC's comprehensive activities related to agroterrorism and zoonotic diseases. Importantly, CDC is proposing a new organizational unit, the National Center for Zoonotic, Vector-Borne, and Enteric Diseases (NCZVED), which will bring together similarly focused programs and provide national and international scientific and programmatic leadership for zoonotic, vector-borne, foodborne, waterborne, mycotic, and related infections to identify, investigate, diagnose, treat, and prevent these diseases. In carrying out its mission, NCZVED will provide leadership, expertise, and service in laboratory and epidemiological science, bioterrorism preparedness, applied research, disease surveillance, outbreak response, policy development, health communication, education and training, and program implementation and evaluation. NCZVED will focus on the continuing challenge of emerging and re-emerging zoonoses and recognize the importance and need to work collaboratively, not just across CDC and the traditional public health community but also with agricultural, wildlife, and companion animal agencies and organizations.

Surveillance and Epidemiology

A possible target of agroterrorism is the nation's food supply. Surveillance of and epidemiologic response to disease are the foundation of CDC's activities. Preparedness for naturally occurring outbreaks better prepares the United States for the unexpected attack. Routine disease surveillance systems coordinated by CDC provide an essential early-information network to detect dangers in the food supply. In addition, these systems can be used to indicate new or changing patterns of foodborne illness and would likely detect early cases of an agroterrorism event involving a zoonotic agent. For example, PulseNet is a national network of public health and food regulatory agency laboratories coordinated by CDC and consists of State health departments, local health departments, the U.S. Department of Agriculture (USDA), and HHS's Food and Drug Administration (FDA). PulseNet plays a vital role in surveillance for and investigation of foodborne illness outbreaks that were previously difficult to detect. Participants perform standardized molecular subtyping (or "fingerprinting") of foodborne disease-causing bacteria which are submitted electronically to a dynamic database at CDC.

This database is available on demand to participants which allows for rapid comparison of the patterns. When similar DNA patterns are identified for foodborne disease-causing bacteria, scientists can determine whether cases of illness are linked to the same food source, even if the affected persons are geographically far apart. Outbreaks can often be detected in a matter of days rather than weeks. As a consequence, CDC can more rapidly alert FDA and USDA about implicated food products associated with foodborne illness so that all three agencies can take protective public health action.

PulseNet works in tandem with CDC's Foodborne Diseases Active Surveillance Network (FoodNet), a collaboration among state health departments, USDA, and FDA that closely monitors the human health burden of foodborne diseases in the United States. FoodNet consists of active surveillance for foodborne diseases and related epidemiologic studies designed to help public health officials better understand the epidemiology of foodborne diseases in the United States. These surveillance networks have led to improvement in the public's health and stand prepared to detect an agroterrorism event in the food supply. For example, the incidence of *E. coli* O157 infections began to decrease sharply after 2002, as investigations of PulseNet-identified clusters focused attention on more specific controls at the level of ground beef. By 2004, the incidence of *E. coli* O157 infections as measured in FoodNet had dropped 42% since the baseline period of 1996-1998, and was below the goal for Healthy People 2010. Since much of our food today is imported, CDC has also emphasized the need for these systems to be more global and to expand to detect more zoonotic agents and diseases.

CDC also has partnered the public health system with veterinary and wildlife health partners at the Federal, state, and local levels in the creation of ArboNET, a comprehensive CDC-developed system to monitor West Nile virus and other mosquito-borne virus activity in the United States. CDC is also working to build public health capacity abroad. With the help of FY 2006 Emergency Supplemental funds, CDC is establishing an on-ground regional presence with Global Disease Detection (GDD) Response Centers in five key global areas: Egypt, Guatemala, Kenya, Thailand, and PR China. This is part of CDC's efforts to strengthen global surveillance capacity by establishing a network of Global Disease Detection and Response Centers strategically placed in each of the six WHO regions. Each GDD Response Center will design and implement key interventions aimed at the early identification and containment of pandemic health threats, whether an act of terrorism or the natural emergence of a deadly infectious pathogen like pandemic influenza.

Laboratory Detection

A public health laboratory infrastructure that can provide test results in hours rather than days is critical in the event of a biological or chemical attack. The Laboratory Response Network (LRN) was created in 1999, by CDC, the Association of Public Health Laboratories (APHL), and the Federal Bureau of Investigation (FBI). The LRN is a national network of local, state and Federal public health, military, food testing, veterinary diagnostic, and environmental testing laboratories that provides the laboratory infrastructure and capacity to respond to biological and chemical terrorism and other public health emergencies. The approximately 150 laboratories in the LRN are affiliated with Federal agencies, military installations, international partners, and state and local public health departments.

Since its inception, partnerships with FDA, USDA, and others have helped to expand the LRN's capacity. FDA's Center for Food Safety and Applied Nutrition (CFSAN) and Office of Regulatory Affairs (ORA) have been working with the LRN on developing standardized food sample testing methods for use among Food Emergency Response Network (FERN) labs, some of which also operate as LRN-member

laboratories. FERN is jointly operated by FDA and USDA. FERN laboratories would be critical in the recovery phase of an event by screening large numbers of food samples. In addition, the LRN is also working with USDA's Animal and Plant Health Inspection Service (APHIS) laboratory in Ames, Iowa, and the veterinary diagnostic laboratory community to act as reference and sentinel laboratories for the detection of zoonotic agents. To ensure accurate testing of food samples, the LRN and FERN have worked on test method harmonization for counter-terrorism purposes and have participated in joint proficiency testing exercises. The networks have conducted joint exercises for *Bacillus anthracis*, *Francisella tularensis*, and *Shigella* spp. in vulnerable food commodities. The LRN currently has 97 laboratories participating in food testing for select bioterror agents, and it has participated in the development of the FERN model for food surveillance testing and surge capacity.

Given that many Category A agents are zoonotic, the LRN has made an effort to include the veterinary diagnostic laboratory (VDL) community in the expansion of the LRN. The LRN currently includes nine VDLs, including the APHIS laboratory in Ames, Iowa. VDLs in the LRN provide a link between animal health and human health systems by conducting animal health surveillance for zoonotic agents and performing food testing. They also provide the LRN with surge capacity testing. The American Association of Veterinary Laboratory Diagnosticians is an LRN partner that helps recruit VDLs as LRN reference labs. Laboratory capacity is further enhanced by Homeland Security Presidential Directive 9 (HSPD-9) which calls for nationwide laboratory networks for food, veterinary, and plant health that integrate existing federal and state laboratory resources and are interconnected. Specifically, HSPD-9 requires HHS and USDA to develop robust, comprehensive, and fully coordinated surveillance and monitoring systems that provide early detection and awareness of disease, pest, or poisonous agents. In response, CDC, FDA, and USDA created an interagency working group in late 2004 to begin the process of coordinating their networks for zoonotic disease surveillance. In 2005, the Department of Homeland Security formed the Integrated Consortium of Laboratory Networks (ICLN) to define the roles and responsibilities of each agency's laboratory network. A memorandum of understanding is pending with FERN based on roles and responsibilities spelled out in the response matrix of the ICLN. The LRN is also working with the ICLN, USDA, and FDA on gap analyses of laboratory testing capacity for three biological agent scenarios, including avian influenza/human pandemic influenza. HSPD-9 also calls for the development of a National Veterinary Stockpile (NVS). CDC is participating on USDA's advisory committee regarding the creation of the NVS.

Select Agent Program

The Public Health Security and Bioterrorism Preparedness and Response Act of 2002 and the Agricultural Bioterrorism Protection Act of 2002 (the Acts) require entities to register with HHS/CDC or USDA/ Animal and Plant Health Inspection Service (APHIS) if they possess, use, or transfer select agents or toxins that could pose a severe threat to public health and safety, to animal or plant health, or to animal or plant products. In addition to ensuring that laboratories safely handle these select agents and toxins, the Acts also require laboratories to adopt safeguards and security measures including controlling access, permitting the Attorney General to screen entities and personnel (i.e., security risk assessments) and establishing a national database of registered entities. The Acts also establish criminal and civil penalties for failing to comply with the requirements of the Acts.

"Overlap" select agents and toxins are those agents that have the potential to pose a severe threat both to public health and safety and to animal health or animal products and are subject to regulation by both agencies. The Acts require that CDC and APHIS coordinate activities in regard to "overlap" select agents and toxins so as to minimize conflicts between the regulations and activities carried out under the programs, minimize the administrative burden on the regulated community, ensure the appropriate availability of select agents and toxins for legitimate biomedical, agricultural or veterinary research, education or other such purposes, and ensure that information on entities possessing overlap select agents and toxins is available to CDC and APHIS via a single shared web-based system.

State and Local Preparedness

CDC's Public Health Emergency Preparedness Cooperative Agreement provides funding to states, select metropolitan areas, territories, and other public health entities to develop emergency-ready public health departments by upgrading, improving, and sustaining their preparedness and response capabilities for "all-hazards" public health emergencies, including terrorism, pandemic influenza, and other naturally-occurring public health emergencies. These emergency preparedness and response

efforts support the National Response Plan and the National Incident Management System.

In addition, the Centers for Public Health Preparedness (CPHP) program was initiated by CDC in 2000, to strengthen terrorism and emergency preparedness by linking academic expertise to state and local health agency needs. This unique program brings together colleges and universities with a common focus on public health preparedness to establish a national network of education and training resources. CPHP Network activities enhance collaboration across the CPHP Network and with CDC, minimize duplication in development of materials, and maximize outreach of existing resources. All 50 states, plus the District of Columbia, Puerto Rico, and the Virgin Islands are served in some capacity (with at least one CPHP activity) through the 27 CDC-funded Centers located within accredited Schools of Public Health. Several CPHPs have expertise in agroterrorism-related work. For example, Iowa State University College of Veterinary Medicine's Center for Food Security and Public Health (CFSPH) was founded in July 2002, as a Specialty Center in Public Health Preparedness for Veterinary Medicine and Zoonotic Diseases. CFSPH integrates veterinary medicine and expertise in zoonotic diseases and public health with the ongoing activities and needs of preparing for emerging diseases.

Preparedness Goals

CDC is adapting to meet the challenges presented by terrorism and emerging diseases. New strategies, innovations, and goals bring new focus to the agency's work, allowing CDC to do even more to protect and improve health. CDC has developed four major overarching goals one of which is People Prepared for Emerging Health Threats. This goal will address scenarios that include natural and intentional threats with an emphasis on prevention and response to chemical, radiological, and emerging threats including zoonoses (e.g., influenza, anthrax, and plague).

Collaborations with Zoonotic Partners—World Organization for Animal Health

CDC was recently selected to become a World Organization for Animal Health (Office International des Epizooties, OIE) Collaborating Centre for Emerging and Re-emerging Zoonoses. In this role, CDC will be better equipped to forge stronger ties between the public health and animal health sectors to detect, control, and prevent zoonoses. In addition, CDC will send a veterinary public health expert to OIE for a temporary assignment in fall 2006, to identify the most likely locations for "twinning" of laboratories, with an aim at stronger integration between animal and human health expertise, as well as establishment of longer term collaboration between selected locations in developing countries and well-established OIE Reference Laboratories. CDC will also support a similar assignment to the United Nations' Food and Agriculture Organization in Italy.

CDC is also seeking ways to build the veterinary public health workforce internationally in countries for which CDC has traditionally recruited physicians and public health epidemiologists for applied public health training. CDC will incorporate fellowships for veterinarians into its existing Field Epidemiology and Laboratory Training Programs (FELTPs). Also, the director of CDC's International Emerging Infections Program in Thailand will work with the OIE regional representative to explore the potential for building relationships in the region between CDC, Ministries of Health, and Ministries of Agriculture.

World Health Organization

CDC will also send a staff person to the WHO for a temporary assignment in fall 2006, to assist WHO's Department of Food Safety, Zoonoses and Foodborne Diseases in determining the nature and extent of the assistance needed by Member States to meet the obligations of the International Health Regulation (2005) for animal- and food-related emergencies. The assignee will work with staff in charge of WHO surveillance systems to assess incoming reports of zoonotic and foodborne disease outbreaks and to identify the assistance needed such as increased surveillance, information exchange, technical cooperation, and capacity building.

American Association of Veterinary Medical Colleges

CDC works with the American Association of Veterinary Medical Colleges on curriculum development and fellowship opportunities to better prepare the veterinary workforce for addressing the animal-human health overlap. Fourteen veterinary colleges currently have public health programs and new courses are being developed that train and prepare veterinarians for bioterrorism, public health, and biomedical research careers. In addition, veterinarians serve in many roles in the public health workforce at CDC including participating in CDC's Epidemic Intelligence Service and Emerging Infectious Diseases Laboratory Fellowship Program.

Integrating the food safety and food defense efforts of Federal, state, and local public health, veterinary and food safety officials is of critical importance. CDC is collaborating with FDA, USDA, and the Council of Association Presidents to raise awareness of current and emerging issues and to promote coordination. The Council comprises the ten leading public health, veterinary, and food safety associations that work the spectrum of food safety and food defense, from animal feed to human health. The collective expertise and collaboration of these associations are essential to develop and implement integrated efforts, provide needed training, and build the multi-disciplinary capacity necessary to address food-related emergencies.

Conclusion

At this time, the scope, scale, and consequences to human and animal health from zoonotic and agroterrorism threats are unprecedented. Preparing for zoonotic threats requires a merging of responsibilities at the animal-human interface, and this preparation is leading to significant progress in CDC's ability to prepare for and respond to an agroterrorism event. Frequent collaboration on outbreak detection and response and close coordination among Federal and State food safety, public health, law enforcement, and intelligence-gathering agencies have resulted in enhancement to the nation's public health systems. These systems improve our nation's ability to respond to naturally occurring events and prepare the United States for a possible agroterrorism attack. Thank you for this opportunity to discuss our preparedness efforts.. I would be pleased to respond to any questions.

Mr. LINDER. Thank you, Dr. King.

Dr. Knipling, you mentioned modern tools and new technologies in two different sentences for detecting these kinds of things. Explain what you mean by that.

Dr. KNIPLING. These are largely based upon our new understandings of molecular biology, which are then rooted in genomics, the gene identification and sequencing of organisms and pathogens, and then very sensitive and rapid detection technologies based upon that knowledge that distinguish between species and strains and mutations and the like.

Mr. LINDER. Are you surprised that we have not seen much of the avian influenza outbreak lately?

Dr. KNIPLING. No, not surprised. We have a long experience with avian influenza, much longer than most realize, over 40 years of experience in this country with the low pathogenic strains.

Mr. LINDER. H5N1?

Dr. KNIPLING. We have a tremendous base of knowledge. There are both low pathogenic and high pathogenic strains of H5N1 and in fact, the U.S. has experienced the low pathogenic strains on a number of occasions over 40 years. So we have a lot of experience, we already have the capability to prevent it and I think the fact that we have not seen it in this country is testimony that that technology is already in place. Yet, we need to remain vigilant for the new challenges that come our way.

Mr. LINDER. You mentioned anthrax spores infecting cattle. Does that—if humans eat that beef, does that bother them?

Dr. KNIPLING. Potentially. Anthrax contamination in cattle is actually quite common, it occurs every year, there are several outbreaks in the northern great plains right now this year. It is quite common. It is very rare for humans to detect it from infected cattle, but yes, it would be theoretically possible. We do know that cooking and proper handling of meat would deactivate the pathogen. But under improper conditions, it could be a rare case of infection.

Mr. LINDER. Dr. Runge, when you talk about one medicine, are you talking about a broadcast kind of vaccine that is based on DNA as opposed to one drug/one bug?

Dr. RUNGE. When we refer to one medicine, Mr. Chairman, we are really talking about one approach, regardless of where the organism arises from. The issue of a vaccine that is sort of a universal vaccine has been around for awhile. The vaccine experts that I have spoken with about it are not hopeful of anything soon, although it is still very much on the radar screen of vaccine researchers.

Clearly, the opportunity to enhance and revamp the way we do vaccines in this country has been made possible by the appropriation for avian flu, the \$4 billion that has been made available. And frankly, the HHS and the vaccine industry have made great strides in a very short amount of time in improving their systems over the next few years.

But as far as a universal vaccine, I am not aware that that is around the corner.

Mr. LINDER. Dr. King, you talked about collaborating with public health agencies. Are you doing anything to collaborate with international corporations, which most of this flu stuff comes, for example, out of southeast Asia and a lot of international corporations have plants in China and southeast Asia. If they have a significant uptick in sick leave, are we—is CDC getting on that?

Dr. KING. We are already emphasizing sort of a new marketing strategy where we really bring in business. CDC now has a new concept of a Business Round Table where we actually bring business community CEOs in to talk about how public health really affects the bottom line of their industries. In terms of large agribusinesses, that is very true, whether in Brazil or southeast Asia, they are very much in tune to biosecurity. We learn from each other, and I think the public/private partnership is an area that we need to look at more but CDC is actually doing that now and bringing CEOs from these corporations and getting more engaged with them as partners.

Mr. LINDER. What kind of response network do you have for zoonotic or animal infections or problems?

Dr. KING. Well, I mentioned the LRN system, the Laboratory Response Network, which was really started as a public health human entity. It is now being expanded to environmental laboratories, food laboratories and veterinary diagnostic laboratories. So we now see these communities starting to be pulled together. The pathogens really do not care what their host is, whether it is four-legged or two-legged. Because they are zoonotic, we have to be prepared to have veterinary diagnostic labs, veterinary practitioners as well as physicians and hospitals, all on the alert and sharing information. And that is partly what the LRN does.

Dr. RUNGE. Mr. Chairman, could I also make a comment about this as well?

Mr. LINDER. Go ahead.

Dr. RUNGE. DHS, through its Sector Coordinating Council, which basically all the owners of the infrastructure are part of the Sector Coordinating Councils and the Government Coordinating Councils which are the government entities that are associated. One of the critical sectors as you well know is food and agriculture and we have a very robust private sector, public/private partnership essentially in these councils.

And with respect to surveillance from overseas cases and so forth, the reason that we are standing up the National Biosurveillance Integration System is to take advantage of various sources, whether it is the armed forces military intelligence command, whether it is the CDC, whether it is Bio-Sense which CDC operates, Bio-Watch, which we operate; we need to integrate all of those surveillance activities to make sure that we can see early signs of such an outbreak.

Mr. LINDER. Thank you. I believe that the State Department is talking to the CDC now about getting some medical officers at the embassies some epidemiology training as they go overseas, and I think all that is helpful.

Thank you all.

The gentleman from Georgia, Mr. Scott, for five minutes.

Mr. SCOTT. Thank you very much, Mr. Chairman.

Let us start with the nature of our food chain, let us start with the imbalance of our export/import ratio of our trade balance for agricultural products. As you know, the United States is going down in the level of exports. The amount of exports that we export to the world is almost down now from 17 percent to almost like 11 percent. Meanwhile our import of foodstuffs into this country is going up to about 13 percent. Specific crops and products, for example, bananas, tomatoes, 90 percent of those food lines comes from someplace else. It seems to me that if we are going to really be prepared for this, we have to put our minds into the thinking of these terrorists. We need to learn, for example, from what happened in London. Who would have thought a liquid being made a bomb.

Our efforts are on transportation, but these people come here at one checkpoint, we can check them. Our food chain is all over the place and I am wondering if on one point, I would like an answer, what are we doing with our international trading partners? It seems to me at the point of origin we need to have some protective measures in place. How are we moving in that direction, would be my first one. Either one of you can answer that but I think that, Dr. Runge, you being the Homeland Security representative here, you might want to start that.

Dr. RUNGE. I will quickly defer to the two experts I have on either side of me, one whom I believe used to run the Animal and Plant Inspection Service. As you know, Congressman Scott, part of the APHIS came over to DHS when the department was stood up, and this has to do with the border inspections. Congressman Barrow referred to this as well.

We work very, very closely with USDA to make sure that there is a systematic approach towards food and agricultural inspections at the border as well as traveler security.

That having been said, I could not agree with you more that the point of export is also a very, very good place to do security checks and frankly, with the amount of cargo coming in, it is daunting, to make sure that every single container that might contain something bad is in fact checked.

The approach that DHS has taken to such cargo security is in fact looking at very large threats, and in fact, the things that worry the Secretary and I the most are nuclear security and biosecurity.

I believe that we will be putting more and more attention towards that in the months to come.

With respect to the specifics, I will defer to these experts.

Dr. KNIPLING. Well, I would just acknowledge that USDA does have protocols in place. As was pointed out by Dr. Runge, some of those responsibilities shifted to the Department of Homeland Security, but some of those protocols at that time were continued by that agency. The two agencies worked together.

I do know that there are regulatory protocols on both the—at the point of export, pre-inspection, if you will, and then again at the point of import to the United States. This varies according to the country, the commodity, the time of the year and so forth, there are many variables and the problem is one size does not fit all.

Mr. SCOTT. Let me ask you specifically, if I may, Afghanistan, Pakistan, that mideast region, those nations, there are products that we bring in and we have some level of trade with those. Specifically are you satisfied with the level of checks that we have with those specific countries in the middle east?

Dr. KNIPLING. I am really not familiar with the specifics there and I would hesitate to comment on that specifically. Certainly would seek to find answers to your questions in that regard.

Mr. SCOTT. Okay. One other thing, Dr. King, before my time slips away from me. You mentioned in your testimony that the CDC is addressing preparedness for an act of terrorism event due to a zoonotic disease. Can you give us what that event might be and can you give us some specifics on that?

Dr. KING. There are a number of agents that we continue to monitor and watch and there are groups of classifications of agents that we monitor and know. Dr. Knipling talked about a disease such as Rift Valley, which has similar—could have a similar origin to what we saw with West Nile virus moving from Africa to the mideast. It is mosquito-borne and we have in this country competent vectors, mosquito-vectors, that are ready to carry this disease that is zoonotic in nature. And so part of the preparedness is to understand those mechanisms, to not just look at our borders' end, but also look globally because we know that a problem in one country can be our problem in 24 hours. We know what those diseases are, and we are working with the World Health Organization and others. In terms of more of a global monitoring system that really came out during the in SARS outbreak, that was the real lesson learned during SARS, which was the ability to put together a global system rapidly.

Mr. SCOTT. Have we done any research on what would be the most logical event? Have we put any scenarios in place? We do that—I am on the national security group and we do that war games in Carlisle, Pennsylvania. Do we have anything working where we are into this bioterrorism area where we have logical scenarios that are going on, to our best knowledge, to be prepared?

Dr. RUNGE. Yes, sir, we do. I might also say that, just as Chairman Linder was speaking earlier about prevention, the global prevention effort involving not only looking at things but looking at people and trends, we have a relationship with our own information and analysis, our intelligence sector at DHS, to address biosecurity issues, and we do exactly that.

We also have 15 planning scenarios that have been discussed, there are five that deal with biologic events—smallpox, anthrax, yersinia pestis and pandemic influenza, and foot and mouth disease. We are in the process of identifying resources to do specific planning and play book development against those four scenarios.

On top of that, we also—there are things that keep us up at night that are not part of those scenarios that are in fact based in our best knowledge.

Mr. LINDER. The time of the gentleman has expired.

Mr. SCOTT. Thank you, Mr. Chairman.

Mr. LINDER. The gentleman from Evans wish to inquire?

Dr. NORWOOD. Yes, sir. Thank you, Mr. Chairman.

I have two questions, gentlemen, and I hope maybe each of you can respond to it, but prior to that, inspections at the border. Dr. Knipling, can you give me some idea how much poultry and how much beef we import into this country on our southern border?

Dr. KNIPLING. I do not have those statistics, I do not know.

Dr. NORWOOD. Anybody know?

Mr. LINDER. Would you be willing to get those answers and send them?

Dr. KNIPLING. Yes, of course.

Mr. LINDER. Thank you.

Dr. NORWOOD. Really what I am asking is how much of that is inspected, what percent of that beef and chicken that comes in. It is great to have all these programs but the bottom line is are we doing it. And I would really very much like to know that.

Avian bird flu, gentlemen, is pretty important to us, at least it is to me. I have got a whole lot of chickens in my district and in my state and that avian bird flu tends to make me worry just a little bit. I know we are doing great research here in Georgia, the Department of Agriculture Southeastern Poultry, which I am happy about of course, and the University of Georgia Ag Research Center. Who else though is doing research on avian bird flu around the country or around the world? Or is it just us?

Dr. KNIPLING. In addition to the USDA ARS efforts right here at Athens, Georgia, there is a network of the land grant universities, including the University of Georgia that has capabilities and they are working together under an umbrella projects.

There are research efforts also in other countries around the world. Again, I do not have the specifics but it is a very close network. Our scientists here at Athens, USDA scientists, are very well connected. They themselves are internationally recognized, providing leadership to this worldwide effort. But also we do in fact benefit from sharing knowledge with other countries, other researchers.

Dr. NORWOOD. So there is a sharing process. Gentlemen, either doctor want to respond to that, have a comment about that?

Dr. RUNGE. Dr. Norwood, I am not aware of who all specifically is doing this worldwide. However, the Science and Technology Director at DHS does have centers of excellence in universities, particularly at Texas A&M, which are doing various studies of not only avian influenza, but also—

Dr. NORWOOD. Now are they talking to your people?

Dr. RUNGE. Yes, absolutely.

Dr. NORWOOD. That is sort of what I am trying to find out.

How much money are we spending perhaps as a nation to prevent an attack through poultry, a terrorist attack?

Dr. KNIPLING. Specifically on the avian influenza, we have a base program prior to this fiscal year of about \$2 million. We did receive the emergency avian influenza supplemental, USDA received close to \$90 million there, of which roughly 10 percent is directed toward the research function and the balance for some of these international preventive, training, diagnosis activities.

We also have pending in our fiscal 2007 budget request some significant new resources as well. So we are rapidly accelerating the activity in this area.

Dr. NORWOOD. Dr. Runge, do you have—we were talking about vaccines a minute ago. Do we have a vaccine for avian flu?

Dr. RUNGE. We have a vaccine for—we have a limited number of vaccine doses for the virus currently that causes avian flu, that would be given to humans. There are vaccines that could be given to birds as well, and in fact other countries do vaccinate their birds. We do not.

Dr. NORWOOD. If we had an outbreak, can we protect America?

Dr. RUNGE. Well the hard truth of this is that it takes time to develop a specific vaccine using a specific virus that would make people sick. So we actually have to wait until people get sick before we can harvest the virus and begin vaccine production, which does have a lag time because of the relatively antiquated technology of our vaccine manufacturers, which is why I think Congress stood up to the plate and actually stimulated the development of more cell-based and perhaps DNA-based vaccine manufacturing.

Dr. NORWOOD. With your permission, Mr. Chairman, I will have some written questions on that very subject.

And lastly, one thing that I am interested in is which agency is in charge? Who is the general? Should we have a zoonotic agent attack in this country, who is in charge?

Dr. RUNGE. I will be happy to answer that, sir. It sounds a little arcane, but USDA has been handling the zoonotic agent outbreaks in this country for a long, long time and doing a very good job, not just federally, but their state partners who put a tremendous amount of resources into this, are very well equipped to deal with things on the state level. Particularly this state is way, way out in front of most states in doing so.

Once such an outbreak would escape the ability of one federal agency or state agencies to deal with it and a request for assistance at the federal level would be made, it would become an incident of national significance in which case the President is always in charge, but his designee is the Secretary of Homeland Security, and Secretary Chertoff would be in charge of an incident of national significance.

Dr. NORWOOD. So if it is animal or human, the Secretary would be in charge.

Dr. RUNGE. If it escapes the ability of the USDA to manage it, if it crossed inter-agency jurisdictions or if a state asked for federal assistance, then it may very well be declared an incident of national significance.

Dr. NORWOOD. Have we done anything in terms of training with an anticipation of that? For example, disaster people do training all the time, the Army does training all the time, Marine Corps does training all the time. Have we ever done anything in this country to be prepared for a zoonotic attack where all agencies had to be coordinated, where Homeland Security Secretary was in charge?

Dr. RUNGE. We have done so with respect to avian influenza, not just in birds but after it would cross over into the human species. We are also anticipating a table top exercise in fiscal year 2007 on foot and mouth disease.

Mr. LINDER. Did you not have a table top exercise in the White House?

Dr. RUNGE. Yes, sir.

Mr. LINDER. On avian influenza?

Dr. RUNGE. We did indeed, in December, cabinet level.

Dr. NORWOOD. Tell me how you do that. How did you have that in the White House?

Dr. RUNGE. It is actually over in the Executive Office Building in one of those big pretty rooms.

Dr. NORWOOD. I am talking about a big scale thing, I am talking about way they train, for example, for a disaster if Augusta, Georgia is hit by a bomb. We do training alerts for that.

What have we done about that to—the military will tell you right quick you are not worth your salt if you do not train, train, train.

Dr. RUNGE. Absolutely. I must step back a second. The first thing was that the Secretary of HHS and a representative, mostly me and my colleagues in Preparedness, visited all 50 states and territories to meet with state and local officials, folks from the faith community, the emergency response community, the schools, et cetera, to offer them resources and to walk through the necessity to do exactly what you are talking about, Dr. Norwood, and that is to plan on the local level. Preparedness ultimately is a local event. As we saw in Katrina and other disasters, the local response is people's preparedness. The federal government can step in and do certain things within its limitations, but you are exactly right, in effect, the ability to plan, train and resource appropriately is in fact a very, very local exercise.

Dr. NORWOOD. Mr. Chairman, unanimous consent for just 30 seconds.

Dr. King and Dr. Knipling, are you real excited about Homeland Security being the lead dog in this? No offense.

Dr. KNIPLING. As Dr. Runge said, we are very closely connected. If there were an outbreak of avian influenza in this country, it probably would show up first in bird species, either domestic poultry or wild birds. USDA, in connection with the Department of Interior with respect to wildlife, would have a primary first role, but we are very well connected for the handoff. There is a lot of overlap between animal infection and human infection and we would both be involved at that interface.

Dr. KING. Yes, sir, I do not really care who is in charge, I want to make sure it is an effective response and if it is Homeland Security, we are certainly players in that, participate and involved in the planning. And we would have no problems moving ahead that way.

Dr. NORWOOD. A lot of people are concerned about who is in charge of our borders.

Mr. LINDER. The time of the gentleman has expired.

The gentleman from Athens wish to inquire?

Mr. BARROW. Yes, sir, thank you, Mr. Chairman.

First of all, Dr. Runge, I heard you respond to Dr. Norwood's questions about who is taking primary responsibility for ag inspections and you said the USDA has been way out in front for a long time. And I think I heard you acknowledge that the Georgia Department of Agriculture has also been in the lead in this area. Can you help me understand how we compare to other states in that regard? I want to know more about that.

Dr. RUNGE. You know, I will get myself in trouble if I start comparing states. Let me just again offer that—and actually I met this morning with some folks from your state's leadership on exactly this topic. I think you are going to hear some more about this in the next panel as well.

I think because you are number one in poultry production, the issue of agrodefense is very, very, very appropriately of concern to Georgians. You are first in agrosecurity educational programs. There is a curriculum that is actually floating around this room right now that is certainly way out in front and could be a national model. You already have a response capacity built into your state government integrating public health, agricultural inspections and response with the public/private partnership. You have got agricultural response teams that they call SART teams. There really has been a tremendous amount of activity. Could be because your Governor is a veterinarian. I would like to think that every state could do that.

Mr. BARROW. Well, it could be because we have got some good leadership in the Ag Department on behalf of Dr. Myers who is the co-author of Dr. Brown's report and who is Assistant Commissioner for Agriculture in charge of the animal industry and also on behalf of Tommy Irvin, I want to thank you all for acknowledging what they are doing here right and let us see if we cannot get others to follow examples that we are setting here.

I want to follow up on something that Charlie Norwood asked about, another thing he asked about, that concerns me.

He says you work real hard to coordinate your efforts with USDA, to make ag inspections more systematic. What I want to know is what actually has been done to make them any different since 9/11. Dr. Norwood tried to—he moved into this area by asking how much of the ag imports are being inspected. We all know, for example, that only something like five percent of containerized shipping is getting any kind of inspection before it gets to this country and it is not being inspected until it gets to this country. The five percent that is being inspected is being done in places in ports like Savannah, not at the ports of disembarkation—embarkation.

I am concerned about how ag inspections are being done differently now. Can anyone—I heard Dr. Norwood ask and no one could answer how much is being inspected. Can anyone tell us how much more is being inspected, in terms of a percentage of the

whole now as compared to how much was being inspected before 9/11?

Dr. KNIPLING. I do not have that information, but again, I will seek to—

Mr. BARROW. Dr. Runge, can you zero in on that information and get that for us as well?

Dr. Knipling, you said that DHS has worked hard with your agency to make sure that inspection protocols are in place. It is one thing for protocols to be in place and it is another for protocols to be being followed, actually being implemented. Can you tell us whether or not the protocols that have been adopted by DHS in coordination with your Department are actually being implemented, actually being followed?

Dr. KNIPLING. I guess—

Mr. BARROW. It is one thing to agree that this is the procedure we ought to follow and it takes a long time to agree on what the procedure we ought to follow ought to be, but then it takes even more time to actually get around to doing it. How are we coming on that score?

Dr. KNIPLING. Yes. Again, I cannot speak authoritatively on that specific issue.

Mr. BARROW. Okay. Well, let me direct your attention, as I did in my opening statement, to the report of the GAO that was issued earlier this year. Are you all familiar with the GAO's scoring of our efforts in this regard? Anybody familiar with that report?

Dr. RUNGE. I am not, sir.

Mr. BARROW. One thing they said is that the Department of Homeland Security has not developed performance measures for ag inspections. We are essentially doing things the way we were doing it before, the way the USDA was doing it before the war on terror was really launched in 9/11, against us.

And the question I have is are there performance measures for ag inspections that have been adopted? Again, it gets back to my question, are we doing anything differently in the area of ag inspection now as compared to the way we were doing it back then? Can anybody answer that now?

Dr. RUNGE. Let me just say, I am not sure what the right number is. I know that the protocols are designed to make sure that there is a systematic, not necessarily random, but a systematic approach to inspections at the border. I would be very surprised if our Customs and Border Protection folks were not adhering to those assiduously. They are a bit nimble when it comes to turning up surveillance under certain conditions like the importation of birds and bird parts. They certainly have become more attuned to smuggling of live birds that show up in live bird markets, which are then in turn inspected by the USDA.

So I have no evidence to suggest that the protocols needed a complete transformation after 9/11, but we will certainly be happy to talk to you some more about that.

Mr. BARROW. One of the concerns that I would have would be that if there was going to be an attack launched against us, it would be in the area of bulk imports, not in the exotic, weird stuff, it would be hiding in plain sight in the massive quantities of stuff

that we consume in massive quantities. I would like to know more about that.

Also the GAO said that there are no staffing performance measures, no real measures to decide how many people we need in order to carry out these inspection responsibilities. No standards have been adopted to tell us how many folks we need in order to do this work in this heightened area of concern. When are we going to have some staffing, some performance levels as far as staffing is concerned?

Dr. RUNGE. I will certainly share that concern with Commissioner Basham, and we will get back to you on that, sir.

Mr. BARROW. All right, sir. I see that my time is running out, Mr. Chairman, thank you.

Mr. LINDER. The time of the gentleman has expired. All time has expired. We want to thank Dr. Knipling, Dr. Runge, Dr. King.

Mr. SCOTT. Could I ask unanimous consent to ask one final question that I think is appropriate before we leave?

Have we had an event? Have we come close to one? What is our threat level as far as bioterrorism or an attempt at our food chain? Do we have evidence that Al Qaeda, anybody, has made an attempt to impact our food chain, with a terrorist attack on our food chain?

Dr. RUNGE. Congressman Scott, we have no evidence that that has occurred. That does not mean that we are not ever vigilant in this. I believe someone mentioned Secretary Thompson on the way out making the speech. It certainly is one of Secretary Chertoff's highest priorities in terms of biodefense. We are doing a large number of activities related to biodefense, many of which the Chairman is very familiar with with respect to threat characterization and so forth. We would be remiss if we were not vigilant about this particular topic. And in fact, I would like to assure you that we are.

Mr. SCOTT. Do you recall in the report, coming through our southwestern borders, so far there have been about 1600 individuals of Islamic or middle east—our borders are being used, drug trafficking, illegals and so forth. To what extent is your knowledge, are you aware of that? Do you have any substantial information that says our borders are being used as a way of getting individuals in? I cannot recall the incident, but we had somebody appear before our National Democratic Group on National Security, who stated that certain individuals came through and they had on them some composition of what it takes to transport mad cow disease.

Dr. RUNGE. I certainly am not prepared to discuss that today, Congressman, but I will point out that Secretary Chertoff yesterday had a press conference about the borders and cited a number of statistics showing tremendous progress over the last six to 12 months on the number of individuals with respect to catch and release versus catch and return. The issue that he presented yesterday was asking for Congressional help with some particular court orders that DHS is laboring against with respect to having to release non-Mexican individuals at the southern border.

I appreciate your attention to that as well.

Mr. SCOTT. But could you—would you confirm that report about 1600 individuals of Islamic beliefs or faith were caught coming through our southern borders?

Dr. RUNGE. I cannot confirm that.

Mr. SCOTT. Thank you.

Mr. LINDER. Thank you all. I want to just remind you, Jeff, you and I have talked about this several times, that you have told me and the Secretary has told me that the greatest catastrophic events would be nuclear or biological and we spend one out of eight dollars on airlines. It is time to get some proportionality here.

Thank you all.

Dr. RUNGE. Thank you, sir.

Mr. LINDER. If I can invite our next panel to come forth—Dr. Brown, Dr. Williams and Mr. Black.

I would like to now welcome the three distinguished witnesses on the second panel. Dr. Corrie Brown from the University of Georgia. She is the Coordinator of the International Veterinary Medicine and Professor of Veterinary Pathology at the University of Georgia College of Veterinary Medicine and the former director of the Plum Island Animal Disease Center.

Dr. Paul Williams is the Special Assistant to the Director of the Georgia Emergency Management Agency and is an expert in emergency response and agroterrorism issues.

Mr. Black, Gary Black, is a current member of the Georgia Rural Development Council and is former president of the Georgia Agribusiness Council. Welcome all.

Dr. Brown.

STATEMENT OF DR. CORRIE BROWN, JOSIAH MEIGS DISTINGUISHED TEACHING PROFESSOR, SCHOOL OF VETERINARY MEDICINE, UNIVERSITY OF GEORGIA

Dr. BROWN. Thank you for the opportunity to be here. I am a professor of pathology in the College of Veterinary Medicine. I would like to correct a statement that you made. I was not director of the Plum Island Animal Disease Center, but I was the chief pathologist there.

Mr. LINDER. Well, I would have made you director if I could have.

[Laughter.]

Dr. BROWN. I am not sure I want it. While I was there, I worked on several of the diseases that are the subject of this hearing. Foot and mouth disease, rinderpest, classical swine fever, Rift Valley fever, Newcastle, avian influenza.

I came to the University of Georgia in 1996. I continue to interact with USDA, FDA, DHS and Department of Health and Human Services.

I am the witness here, but I would like to say that what I am going to talk about has to do with what we have done in the State of Georgia. I gathered information for my testimony from the very synergistic, multi-disciplinary team that we have here, the Committee on Agriculture and Food Defense. Lee Myers is the Chair of that Committee, so she is the co-author of the testimony. Many of the members of that committee are in this room and I want to acknowledge them for all of their help and all the hard work that we have done over the last few years.

Okay, let me start with some definitions. The title of this hearing is "Agroterrorism's Perfect Storm: Where Human and Animal Diseases Collide". You know, I am not sure that is accurate. Let us

define zoonotic disease. This is any disease that can be transferred from animals to humans. Of the 1400 diseases of people, 840 are zoonotic. So most human diseases are zoonotic.

Then we have got the bioterror agents, the CDC list, between 26 and 30, depending on how they are clustered. Almost all of those are zoonotic, but that is a small subset of overall zoonotic diseases.

Then we have agroterror. Agroterror is not about making people sick, it is about the economy. Agroterror is either introducing diseases into livestock that will destroy the economy of the agricultural sector or it is about introducing something into the food, which is going to cause hysteria and economic impact.

So if we look at examples of agroterror of livestock diseases—foot and mouth disease, rinderpests. Foot and mouth disease in the UK, \$12 billion. Classical swine fever in the Netherlands, \$2 billion. Newcastle disease in California, \$1 billion. Those are all real, all accidental introduction, and not a single human being sick.

Then we have got other diseases like Rift Valley fever which was mentioned earlier, in the Arabian peninsula, caused both agricultural problems and human illness, also accidental—big impact.

And of course, highly pathogenic avian influenza, all over southeast Asia, both agricultural impact and human disease.

The other aspect of agrocure is food contamination. It has happened. It has happened many times accidentally. Big outbreak with ice cream, big outbreak with hamburgers, big outbreak with deli meat. All accidental.

We do know that there has been many instances of intentional contamination of food. As was mentioned earlier, with our systems of agriculture, they are so vast, they are so integrated, something gets in, it is going to be all over. This is with both livestock diseases and food contamination. And as people mentioned earlier, terrorists know this, they know it can happen, they know how easy it is, they know it will be big impact.

The bottom line is, as Representative Norwood said—excuse me, as Congressman Scott said—an ounce of prevention is worth a pound of cure. We need to be able to detect the first instance of an incursion and we need to be able to respond. This is just as true for accidental as it is for intentional incursion. And we are at great risk of accidental incursion just because of globalization. So we may as well prepare for the accidental as well as the intentional.

All emergencies are local. I believe, having worked with both the central government and now working at the state level, that there is a perception at the central level that the federal government is going to come in and fix everything. That is not true. I see it from a state perspective that everything happens locally. We have to get people on the ground prepared, aware, able to respond rapidly. The amount of damage that we are going to feel is directly proportional to how long it takes to detect the problem and get rid of it.

Okay, we have to respond. So we are fortunate in that the State of Georgia, ag and food defense has been made a priority, a state priority. Our state leaders have seen to that and that has allowed us to take advantage of the funding that comes from DHS to the states. And you can see in the testimony on page 6 all of the accomplishments that our committee has done. National curriculum

on agrocure, agrosecurity. We have trained 2500 people in the state.

We have the state agricultural response teams in place. We have over 500 people trained in incident command systems. We have done exercises. But no state stands alone. Georgia can be very well prepared, but if say Alabama is not, then both states are at risk.

So what I would like to leave you with are recommendations which is in the testimony on the last page. I see three gaps.

The first gap is we need a comprehensive national strategy for agriculture and food defense. We loved HSPD-9. That was wonderful, it was an initial road map. But there has not been anything substantive to follow up with that. No national strategy. It has to include state and local governments.

The second gap is that food and agriculture defense has not been identified by DHS as one of the national priorities. Consequently, many states cannot take advantage of it unless they select that as an elective, so that leaves many gaps.

And the third thing is that funding for states is really inconsistent. Most of it comes from USDA and it tends to be fairly meager. And for terrorism money that went to states, of a billion dollars, only five percent was for agriculture and food defense. So I think we are at great risk. We may need some sort of system where states can use money regionally, so that states can work together and not everyone has to reinvent the wheel.

Thank you.

Mr. LINDER. Thank you, Dr. Brown.

Dr. Williams.

[The prepared statement of Dr. Brown follows:]

PREPARED STATEMENT OF DR. CORRIE C. BROWN

Corrie Brown:

I am a veterinary pathologist and focus in infectious diseases that affect livestock, especially those diseases that are not present in the United States. Subsequent to attaining my PhD at the University of California at Davis, I spent ten years as chief pathologist at the United States Department of Agriculture's Plum Island Animal Disease Center. There I worked for both the Agricultural Research Service and the Animal and Plant Health Inspection Service. I specialized in the diagnosis and control of several diseases that might be used in an agroterror attack, including foot-and-mouth disease, rinderpest, highly pathogenic avian influenza, and Newcastle disease. Since leaving the USDA in 1996, I took my current post as professor of veterinary pathology at the UGA College of Veterinary Medicine, and I continue to visit Plum Island frequently and to consult and explore ways of defending us against the diseases which can be used for agroterrorism. For six years (1998 - 2004), I served on the Secretary of Agriculture's Advisory Committee on Foreign Animal and Poultry Diseases, including two years as co-chair.

I have written numerous articles and spoken at dozens of forums about the economic impact of a foreign animal disease entering the United States and how easy it would be for such an incursion to happen. I'm pleased to say that I coined the word "agroterror" in an attempt to increase awareness of this problem. The word first appeared in *The Philadelphia Enquirer* in 1999 when reporter Steve Goldstein quoted me in stating that agroterror constituted an overlooked threat to the United States. With Dr. Lee Myers, I am co-author of a 400-page manual entitled *Agrosecurity: Protecting America's Food and Agriculture*, which includes a special section for the State of Georgia.

Lee Myers:

I am the State Veterinarian and the Assistant Commissioner of Animal Industry for the Georgia Department of Agriculture. I have a Masters in Public Health and am board certified in the American College of Veterinary Preventive Medicine. Over the last decade, I have spearheaded various teams to develop state emergency preparedness and response plans for foreign animal diseases, such as foot-and-mouth

disease, bovine spongiform encephalopathy, West Nile virus, and avian influenza. Following 9-11, I realized the need to coordinate state resources and focus our efforts on agriculture and food defense, and I created the Committee on Agriculture and Food Defense. As a result of those initiatives, the Director of the Georgia Office of Homeland Security appointed me in the spring of 2006 as the inaugural representative of agriculture and food defense on the State Homeland Security Task Force. I continue to lead the state's strategic plan for agroterrorism and agriculture emergency management, and I serve as the subgrantee for the State Homeland Security funding for agriculture and food.

My efforts at the state level have been recognized by national and international colleagues. I am President Elect of the U.S. Animal Health Association, serve on the National Food and Agriculture Sector Government Coordinating Council, and am a member of the Centers for Disease Control and Prevention Board of Scientific Counselors. I have spoken at numerous national and international conferences about the role of states in emergency management operations, and the challenges of providing training, protecting critical infrastructure and key resources, and building response capability for biological threats.

Introduction

As stated in the hearing synopsis, "The purpose of this hearing is to increase awareness of the relationships between zoonotic diseases, bioterrorism and agroterrorism and will focus on prevention and preparedness strategies."

In order to increase awareness of the relationships, some definitions of each of the terms are in order:

- Zoonotic disease refers to any disease of humans where the infectious agent was acquired from an animal source.
- Biological terrorism, or bioterrorism, is the use of biological agents or their toxins against humans for the purposes of creating terror or to gain some political, monetary, or social advantage.
- Agroterrorism is defined as the intentional use of any CBRNE (chemical, biological, radiological, nuclear, or explosive) weapon against the nation's agricultural and food industries, with the purpose of destroying these resources and causing serious economic harm to the nation.

What is the relationship among the three?

Zoonotic disease is a big umbrella category that includes a huge range of infectious agents. These include such headline organisms as SARS, Ebola, tularemia and anthrax, but also include many lesser known but equally lethal agents such as *Listeria*, *Toxoplasma*, *E. coli* O157:H7, *Salmonella*, *Leptospira* and alveolar hydatid disease. The whole list is extensive, comprising as many as 800 infectious organisms.

Bioterror is the use of those agents or biological toxins that will harm humans and could be released to cause terror. The CDC has categorized them according to threat levels, into A, B, and C, for a total of 26-30 diseases, depending on how the organisms are clustered. These are the diseases that are of primary concern for bioterror protection. Almost all of the Category A, B and C agents are zoonotic; only a handful are not. So the bioterror agents could be considered a subcategory of zoonotic diseases.

Agroterrorism involves the use of any kind of threat to the health of livestock or adulteration of food that would damage the agriculture sector and make our agricultural products unprofitable. Agriculture forms the cornerstone of the American economy. A serious terrorist event involving agriculture would lead to thousands of bankruptcies and hundreds of thousands of people unemployed. It would destroy the health of our American economy.

The World Organization for Animal Health, formerly known as the Office of International Epizootics and still recognized by the abbreviation OIE, for decades has classified certain livestock diseases as "high risk/ high impact". These are diseases that will cause "serious socioeconomic consequences," and consist of some of the high profile agents, including, among others, foot-and-mouth disease, rinderpest, classical swine fever, African swine fever, African horse sickness, and Newcastle disease. None of these will be transmitted to humans to cause serious disease. Highly pathogenic avian influenza (the strains that can be transmitted to humans) and Rift Valley fever are also on this list of diseases capable of causing "serious socioeconomic impacts" and may be the only two diseases that pose a threat both to human health as well as livestock. All are foreign to the United States.

Over the last two decades there has been a plethora of high impact animal disease outbreaks that have damaged agricultural sectors in many countries. Examples include foot-and-mouth disease in the United Kingdom in 2001, classical swine fever in the Netherlands in 1997 and highly pathogenic avian influenza in Asia, Africa and Europe in 2004-2006. In all of these, introduction of the disease was accidental

but the economic impacts were enormous. Because of globalization and world commerce, we are at greater risk than ever of a disease being introduced across borders accidentally.

Terrorists are aware of the ease of creating serious economic harm through intentional introduction of these diseases. Compared to bioterror, agroterror is appallingly easy. Access to these dangerous pathogens is straightforward as they can be obtained from infected animals in many parts of the world, and agent dissemination is simple and could take place in a variety of venues.

While the food supply in the United States is one of the safest in the world, food contamination and human illness occurs regularly. The Centers for Disease Control and Prevention (CDC) estimates that each year 76 million people get sick, more than 300,000 are hospitalized, and 5,000 Americans die from foodborne illness. Preventing foodborne illness and death remains a major public health challenge.

In 1994, 224,000 people nationwide were sickened with *Salmonella enteritis* from eating a national brand of ice cream. That outbreak is estimated to have cost about \$18.1 million in medical care and time lost from work. In 2002, widely publicized disease outbreaks associated with ground beef (*E. coli* O157:H7) and deli meats (*Listeria monocytogenes*) occurred in over 20 states. None of these outbreaks were deliberate.

The nature of our national systems for food transportation and processing facilitate the wide dissemination of large-scale outbreaks. Terrorists know how to introduce harmful chemical or biological agents into the food supply, with extraordinary results. The Epidemic Intelligence Service of the CDC has confirmed bioterrorism or intentional contamination of the food supply in California, Michigan, New York, New Hampshire, Indiana, Kentucky, Tennessee, Oregon, and Texas.

The complex relationships among the Food and Drug Administration, US Department of Agriculture (USDA), Department of Homeland Security (DHS) and State and Local food safety agencies add to the challenge of protecting our nation's food supply. Activities between these agencies should be well coordinated to maximize the utilization of Federal, State and Local food safety and security resources, while eliminating the duplication of food protection activities. State and local entities perform more than 80% of the food safety and security activities in the United States and yet receive meager amounts of funding from the federal government to protect consumers.

The key rule in limiting the damage caused by an introduction of a high impact animal disease or contamination of the food supply is this: the amount of economic damage or human illness depends directly on how quickly the disease or contaminated food is detected and contained. This is as true for an accidental as for an intentional introduction of diseases. If the first instance is recognized, and adequate control measure implemented immediately, we will likely circumvent severe economic consequences and human illness. However, if the problem is not initially recognized, and is allowed to spread to any extent, we will face dire consequences in our agriculture industry, our economy and our public health. Our best defense against this serious damage is to increase awareness to a point where such an incursion is detected as early as possible and that an effective state and local response capability be developed so that deleterious spread can be effectively intercepted through rapid and appropriate actions. This is where state and local responses are essential as they can respond much sooner than Federal partners.

Agriculture and Food Defense Accomplishments in the State of Georgia

The Georgia Department of Agriculture has been a leader in developing and implementing effective agriculture and food defense tools. Fortunately our state leaders, Commissioner of Agriculture Tommy Irvin and Governor Sonny Perdue, have included agriculture and food defense as a state priority, which allowed the use of Department of Homeland Security funding to the states. With support from the Governor's office, in 2003, a Committee for Agriculture and Food Defense (the Committee) was initiated as a multi-agency, multi-partner effort. The Committee functions as a representative group of key officials from state and federal government agencies, academic institutions, and the private sector.

The following are the accomplishments in the state of Georgia as a result of the Committee's coordinated and integrated efforts.

Georgia completed its first Agricultural Vulnerability Assessment utilizing the State Homeland Security 2003 Assessment and Strategy Program, and was the only state to conduct assessments in local jurisdictions. Consequently, we were able to secure approximately \$2.5M in State Homeland Security funding for FY04 and FY05 from the Office of Homeland Security (OHS) Georgia Emergency Management Agency (GEMA) to accomplish the following:

We developed a national curriculum on agrosecurity, the first in the nation. We created a textbook covering national issues on agrosecurity and specific issues perti-

ment to Georgia. The training included website materials, powerpoint instruction, and scenario exercises. To date agrosecurity Level I (awareness) training has been delivered to 2,500 participants, including emergency managers, law enforcement, firefighters, veterinarians, agricultural producers, and various state agencies, all across Georgia. Training is now in transition to the Georgia OHS for sustainability. Training on the Incident Command System (ICS) was delivered to 321 people at ICS 100 and 200 levels, 50 people at ICS 300 level, and 37 people at ICS 400 level. Trainees included county extension agents, Georgia Department of Agriculture personnel, USDA staff, and private veterinarians.

Equipment valuing \$350,000 was distributed around the state for agricultural and food emergency preparedness, including personal protective equipment, decontamination materials, and medical supplies. We conducted a major food security exercise involving food processors, groceries, wholesale suppliers, law enforcement and public safety agencies, and various other federal and state regulatory agencies. This was co-sponsored with GEMA. The Committee in collaboration with the Georgia Division of Public Health co-sponsored two day training sessions on Food Supply Defense, From Farm to Fork: Integrated Response to Food Supply Emergencies for epidemiologists, agriculture sanitarians, and environmental health officers. The training addressed food supply contamination investigations, operations and procedures in a food supply emergency, and critical communications that occur between public health and agriculture employees during a food supply emergency.

We are developing State Agricultural Response Teams (SARTs). There are plans for eight SARTs and one is fully developed. All will be deployable to any part of Georgia or the Southeast. Agrosecurity Level II (performance defensive) training was delivered to 60 SART personnel. Agrosecurity Level III (performance offensive) training was delivered to 30 SART personnel. National Incident Management System (NIMS), ICS 300 and 400 trainings were delivered to all SART personnel.

Geographic Positioning System equipment and handheld computers have been delivered to SART personnel. SARTs have received strike packs of personal protective equipment. Communications protocols and technologies are being defined and organized.

FY06 State Homeland Security Funding - Agriculture and food defense has once again been included in the State Strategic Plan and we are hopeful that significant funding will be available through the Georgia All Hazards Councils to enhance local SART capabilities. Specifically the teams will be taken to a Level III response capability. Additionally, a new major effort will be to conduct a comprehensive survey of the critical infrastructure and nodes of Georgia agriculture and agribusiness industries, to allow us to better focus our planning and training.

Summary and Recommendations:

We are proud of our expertise and activities in preparing our state to respond in the event of an attack on our agriculture or food sector. Much has been accomplished with few resources and our efforts have been recognized nationally and internationally. These successes have been dependent on two critical factors. First, our activities are truly multi-disciplinary and inclusive, with representation and input from all relevant government agencies, academics and the private sector. Response will involve all of these partners so it is important to engage all in the planning. Second, we are fortunate that our state government has been supportive of including defense of agriculture and food in the strategic plan, which has allowed us to apply ourselves vigorously in the seeking of funds from DHS.

But there are serious gaps remaining. As members of the House of Representatives Committee on Homeland Security, you can help strengthen this nation's agriculture and food defense initiatives through action on the following:

Gap Number 1. There is a need for a comprehensive national strategy for agriculture and food defense. Homeland Security Presidential Directive 9 (HSPD-9), issued in January 2004, created an initial roadmap for integration among federal agencies to secure agriculture and food. Now a comprehensive strategic plan that includes federal, state and local levels is urgently needed. According to HSPD-9, DHS is designated as the lead partner but this is worrisome as the turnover is high and there is limited depth in agriculture and animal health. States and local governments need strategic inclusion where HSPD-9 left off.

Solution: Congress should strongly urge that a national strategy for agriculture and food defense be developed, as soon as possible. An official process that requires the inclusion of states and the private sector in order to provide the "seamless system" described in the National Strategy for Homeland security and the National Incident Management System is recommended.

Gap Number 2. Food and agriculture defense was not identified by DHS as one of the seven national priorities in the FY06 National Enhancement Plan, which directs state funding. Only those few state administrative agencies that selected food

and agriculture defense as one of the three allowable electives received funding to enhance agroterrorism and food defense capability. Consequently one state can be very well prepared but the state next door may not have listed agriculture as a priority and so that leaves both states at risk. Funding is not consistent among states—from federal, state or other sources.

Solution: Congress should require DHS to include agriculture and food defense as a national priority for the FY07 National Enhancement Plan and thereafter.

Gap Number 3. Funding for states to develop the infrastructure necessary for food and agriculture defense is inconsistent and meager. USDA has provided the most significant funding, with State funding being the second largest source (National Association of State Departments of Agriculture survey 2004). In 2002, an Association of Food and Drug Officials survey of state activities indicated that more than 80% of the food safety and security activities in the United States are performed at the state or local levels. Almost a billion dollars in federal funds were forwarded in 2003 to the states to strengthen preparedness for terrorism response, with less than 5% devoted to protecting agriculture and food. Community and state defense programs cannot protect the consuming public with the currently available funding. A sincere commitment to protect the nation's food and agriculture infrastructure must be supported with sustainable funding.

Solution: Congress should provide consistent funding that would build infrastructure in each state and encourage regional collaborations and sharing of resources.

STATEMENT OF DR. PAUL WILLIAMS, SPECIAL ASSISTANT, GEORGIA EMERGENCY MANAGEMENT AGENCY

Mr. WILLIAMS. Mr. Chairman, distinguished members of the Committee, as you mentioned, I as a Special Assistant for the Georgia Office of Homeland Security, the Georgia Emergency Management Agency. I am actually assigned to the Terrorism Emergency Response and Preparedness Division.

A portion of my duties include oversight of the Agriculture and Food Defense Initiative, the Medical Surge and Mass Prophylaxis Initiative and the Metropolitan Medical Response System Initiative. My duties relate to these initiatives as my agency is the state administrative agency for the state formula grants administered by the Department of Homeland Security Grants and Training Directorate. Our function is to assure that the monies provided in these grants be solely utilized to enhance the state's strategic plan, ensure compliance with the National Incident Management System and the National Response Plan. Our responsibility is to ensure that Georgia has the capacity to respond to the 15 national scenarios and the national target capabilities. My responsibilities place me in an unusual position to measure preparedness capabilities for both human and agricultural biological incidents. It is my agency's responsibility to ensure that the two of these do not collide.

You have my written statement in front of you and I have a list on page 3 of areas that we consider at the state level areas of logjam. There are issues in being able to provide the infrastructure under the National Incident Management System and the National Response Plan that are areas that we cannot fix at the state level. These are issues that require national leadership. And out of the list that I have there, there are two that jump out at me very specifically, and there are two that we have actually been asking for answers for, for almost a decade.

Beginning with the National Animal Health Emergency Management Committee that formed in the mid-1990s, one of the things that we looked at in looking at how agriculture would be rolled up in what was then the old federal response plan, and at that time

the current method of responding to disasters; we saw that we had various issues that were really not very consistent. We called at that time, the “Tale of two declarations”; one, the Declaration of Extraordinary Emergency by the Secretary of Agriculture and the Declaration of Emergency through the Stafford Act. It is completely contrary at this point in time to the seamless organization envisioned by the National Incident Management System. Without fixing that, we cannot have full implementation of that system.

We are required by September 30 of this year that all states be consistent with the National Incident Management System to continue to receive federal funding under the DHS formula grants. Without fixing that particular issue, I am not sure how any state could actually be in full compliance.

The Stafford Act. The Stafford Act prior to 2000 included the word “pestilence”. By inclusion of that, that allowed the infrastructure of response under the Stafford Act to actually address some of the issues that have been brought up in this discussion today of biological incidents. In 2000 “pestilence” was amended out of the Stafford Act, and since there has been major confusion of basically who is on first. That question has been asked more than once today.

There are other issues. And I have been very encouraged by the questions asked by the Committee today because I think they are really quite on target. Mr. Linder and Mr. Scott both addressed the issue of prevention. We have been—I guess since the 2003 grant process came about, we have been addressing the ability to respond. And I think we have to be able to do that because we do not have the infrastructure to prevent. we have to develop the infrastructure to respond as a short-term goal, but our long-term goal has to be prevention because it is a lot better to prevent one of these acts than to endure all the consequences of responding to it.

There is really no way—in fact in listening to some of my FBI friends in the Joint Terrorism Task Force, they are really confounded on a daily basis with information that comes down. For example, threats to transportation. Well, what does that mean? You cannot protect everything. Is it ground transportation? Is it air? Is it rail? What is it?

The confounding that we have under agriculture, which is even a larger system, and protecting that is even a bigger challenge, but we have to define it into critical nodes. Production, transportation, processing, transportation, wholesaling, retailing, transportation. Every one of those critical nodes are easily intersected by an act of terrorism. And a thorough risk assessment in this state, which we actually have written in our 2006 enhancement plan to do such an assessment, needs to be done not only in Georgia, but across the board, because as we intersect with the infusion centers that are required under the DHS programs, as we begin to share intelligence, if we do not have this type of infrastructure in place, we can do nothing with that intelligence.

I thank you very much for the opportunity to speak to this Committee. I hope you can help us with some of the logjams that we have and I will be available for any questions that you have of me. Thank you very much.

Mr. LINDER. Thank you, Mr. Williams.

Mr. BLACK.

[The prepared statement of Dr. Paul Williams follows:]

PREPARED STATEMENT OF DR. WILLIAMS

Mr. Chairman distinguished members of the committee:

My name is Paul Williams. I am a Special Assistant for the Georgia Office of Homeland Security / Georgia Emergency Management Agency, Terrorism Emergency Response and Preparedness Division. A portion of my duties include oversight of the Agriculture and Food Defense Initiative, the Medical Surge and Mass Prophylaxis Initiative and the Metropolitan Medical Response System Initiative. My duties relate to these initiatives as my agency is the State Administrative Agency for the State Formula Grants administered by the Department of Homeland Security, Grants and Training Directorate. Our function is to assure that moneys provided in these grants be solely utilized to enhance the State Strategic Plan, insure compliance with the National Incident Management System, and the National Response Plan. Our responsibility is to insure that Georgia has the capacity to respond to the fifteen National Scenarios and the National Target Capabilities. My responsibilities place me in an unusual position to measure the preparedness capabilities for both human and agriculture biological incidents. It is my agency's responsibility to insure that the two "do not collide".

Our Agriculture and Food Defense Initiative has a primary focus of protecting Georgia's agriculture and food infrastructure from compromise by administering comprehensive DHS programs of prevention, deterrence, response and recovery; at the same time applying the DHS overarching principle of "All Hazard Preparedness" to provide for a value added deliverable that recognizes finite resources and the need for prioritization based on credible threat, vulnerability and risk.

Georgia's agriculture and food sectors contribute more than \$57 billion, or about 16%, to the state's \$350 billion annual economic output. The importance of Georgia's agriculture industry to the state and nation is underscored by the fact that one in every six Georgians works in an agriculturally related sector of the state's economy. Protection of Georgia's agriculture is a nationally significant advantage. The state ranks first in the United States in four major national food commodities, and second and third in at least three other national food commodities. A disabling agriculture incident in Georgia would affect not only the state but also directly impair the entire national market economy. It is recognized that the agriculture and food supply can be targets to threaten our nation's economy, but also can be used as vehicles for the dissemination of a chemical, biological or radiological agent to attack our citizens. Georgia is a major hub in our nation's production, processing, marketing, and distribution of agriculture and food resources. As such, Georgia represents at least three critical nodes subject to compromise in this "most vulnerable" area of our nation's Critical Infrastructure and Key Resources.

To date the State of Georgia has invested in planning, organization, equipping, training, and exercising our response to "All Hazard" incidents affecting food and agriculture. Specifically, Georgia has developed a national curriculum for agrosecurity awareness and trained thousands of first responders.

Enhanced agroterrorism defense cuts across DHS programs and national priorities originally outlined in National Incident Management System and the National Response Plan implementation and expanded regional collaboration. Enhancement of agroterrorism defense also provides a synergy of capability in the State's Strategic Plan, the State's Emergency Operations Plan, and the other fourteen enhancement categories approved in the State's 2006 Enhancement Plan.

The Homeland Security infrastructure currently under construct in Georgia regarding Agroterrorism and Food Defense is based on the National Incident Management System and the National Response Plan, and includes appropriate elements of the National Infrastructure Protection plan, Homeland Security Presidential Directive 7 and Homeland Security Presidential Directive 9.

Georgia is on target in fulfilling the goals and objectives outlined in the 2004 and 2005 grant periods. Requests provided in the 2006 Enhancement Plan will support completed milestones, which involved awareness and response, but will also allow the initiative to begin to address the issues of prevention, protection, and recovery.

The challenges are great. Creating a national culture of "One Medicine" rather than the current reality of two medicines fostered by regulatory and funding programs will be painful if not impossible without National leadership.

Many of the log jams that we face at the state level cannot be fixed at the state level.

Many of the questions that required answers to effectively implement the National Incident Management System and the National Response Plan are still unanswered today.

The confusion created by the "Tale of Two Declarations" (A Declaration of Extraordinary Emergency by the Secretary of Agriculture and a Declaration of Emergency thru the Stafford Act) is completely contrary to the seamless organization envisioned in the National Incident Management System.

The Stafford Act was amended in 2000 removing the word "pestilence". This seemingly harmless deletion has provided major confusion when dealing with agriculture biologic incidents where the customary first responder community is asked to assist. This confusion not only hampers response, but limits buy-in from the first response community regarding training and preparedness initiatives. When the State Administrative Agency cannot answer the question from the first responder community of "who's on first," the entire initiative of Agroterror-Food Defense losses its credibility.

Although well intended, the separate funding streams from The Department of Health and Human Services for Public Health and the Department of Homeland Security for everybody else tends to place more emphasis on program hoops than actually building capacity that supports the State's Strategic Plan, and conflicts the need for integrated prioritization based upon limited resources. Only with single oversight with the mission of building capacity under one strategic plan can we be successful. Many of our successes have been because of individuals rather than programs. We must do better. We cannot afford not to.

I thank you for the opportunity to address the committee. We would appreciate your help in fixing those things that we cannot.

STATEMENT OF GARY BLACK, MEMBER, GEORGIA RURAL DEVELOPMENT COUNCIL

Mr. BLACK. Mr. Chairman, members of the Subcommittee, I am Gary Black. And for the past 17 years, I have been President of the Georgia Agribusiness Council. I really appreciate this opportunity to update the Committee members and the public regarding industry's efforts to address the topic of today's very important meeting. I want to thank all of you for your service to our country and welcome home during the month of August. But you are about to return and we thank you for your service and wish you well as we wrap up this year.

Mr. Chairman, many of the other speakers have focused on the actions and planning of government entities. Government agencies should be commended for working to improve agricultural and food defense through preventative measures and preparing for ways to respond to an attack. However, industry has worked on its own to protect consumers from disease and attack and I would like to spend my time discussing the progress that we have made in the agribusiness industry and the food industry.

The threat of the Asian strain of H5N1 highly pathogenic avian influenza has highlighted the need for proactive action by industry. The poultry industry has responded by spending a tremendous amount of time and resources in the area of prevention. They know the importance of biosecurity and the need for physical barriers to prevent infections. Without government regulation, the poultry industry implemented strict biosecurity measures, such as limited access to farms and policies encouraging practices such as wearing plastic boot covers and using disinfectant foot baths to prevent infections. Through a federal grant, the University of Georgia will be conducting a series of farmer meetings starting this fall, with additional assistance from industry, to emphasize the importance of biosecurity and preventative measures. These meetings will reach each of the nearly 4000 poultry growers in the state of Georgia.

Additionally, the poultry industry voluntarily established a surveillance program prior to federal and state requirements. The program calls for participating companies to test flocks while they are still on the farm. If any flock tests positive for H5 or H7 types of avian influenza, the company will destroy the flock before it is introduced into the food chain.

Many of us have seen the impact avian influenza has had on other areas of the world. It is important to remember that in the United States, the modern system of production employed by the poultry industry means that chickens and turkeys are kept in enclosed areas from the time they are hatched until the time they enter the processing plant. They have no contact with wild birds.

The poultry industry has developed plans for response and eradication of avian influenza. Many companies have identified the personnel that would be involved in a response and these individuals are receiving training and companies are stockpiling equipment that would be needed to supplement federal and state resources. They are working with state and federal partners in the planning process and taking advantage of joint training exercises with federal and state officials.

Even in the presence of a high degree of farm production security measures and poultry that is voluntarily tested and proven free of harmful agents as we have discussed here today, there does exist a certain level of risk. It takes years of work, research and investment to build a food industry that is trusted by consumers. An attack on our food supply may have as its goal the imposition of a financial harm rather than an attack on public health and safety. And we have discussed that in the last few minutes.

It is incumbent upon leaders in the state and federal government to have an effective strategy to provide the public with timely and accurate information in case of a food and agriculture related emergency so that this hard-earned and well-deserved consumer confidence is not lost. Because of these risks, it is certainly appropriate for industry to help lead the way to develop these disease prevention and response programs. I urge government agencies engaged in these activities to work with industry representatives and leaders to provide the most effective programs for food safety and disease prevention possible.

Thank you, Mr. Chairman, for the opportunity to share these brief remarks with the Committee today. The future of our economy and public health in America depend upon industry and government entities working together. A safe supply, Congressman Norwood, of domestically produced food is a national security issue of utmost importance. Could not agree more. And I hope that in the future I can make a positive contribution toward keeping the communication lines open to ensure the safety of our food supply in Georgia.

Thank you, Mr. Chairman.

Mr. LINDER. Thank you, Mr. Black.

Dr. Brown, I have believed for some time that not on agriculture but on biological or nuclear attack, the first person to show up is going to be a fireman with a brand new truck and haz-mat suit and he is not going to know what the hell to do.

Would you think that it would be wise for the grants that we give to communities to be tied to training?

Dr. BROWN. Yes, absolutely. And our training went out to fire-fighters, law enforcement officials, emergency management people, producers, veterinarians. It was very multi-disciplinary training. And part of the purpose of that was to get all the people in the same room so that they all know each other so that when they have an emergency, they are not, as they say, exchanging business cards over the dead bodies.

Mr. LINDER. That is a little bit rough there.

[Laughter.]

Mr. LINDER. Thank you. We have seen estimates that—I do not believe we have had foot and mouth disease in this country since 1929 and virtually every cow in Afghanistan has foot and mouth disease. It would be very easy to wipe a cloth over that nose and put it in a vial and get in a plane and bring it to north Texas and infect millions and millions and millions of cows and it would be a \$100 billion event.

Why have we not talked about that?

Dr. BROWN. Talked about it coming from an endemic country specifically, or—

Mr. LINDER. Coming from a terrorist who has access to these cattle in Afghanistan.

Dr. BROWN. You know, I am not sure we have not talked about it. Because this is something that I hear people in USDA talk about quite a bit. And at Plum Island, the Department of Homeland Security was putting together a forensics unit to do molecular epidemiology of strains around the world. I know unfortunately the person who was heading that unit just moved to USDA, so that unit is temporarily inactive.

Mr. LINDER. Dr. Williams, the name of this subcommittee is the Subcommittee to Prevent Nuclear and Biological Attack. And I was struck in talking to Dr. Gerberding at CDC some years ago that they never thought—they respond, and they are just now thinking about prevention. And prevention requires intelligence which we spend about two percent of the homeland security budget on, we spend one-eighth of it on airlines.

But is there any intersection between the biologic community and the intelligence community? The biologic community is an academic community with wide open borders inviting all kinds of foreigners in to share their research and the CIA is just exactly the opposite.

How do you create an intersection between those two communities?

Mr. WILLIAMS. Well, it is beginning to happen. I am struck by, as we talk about all these issues, of where we were in 2003 when we started all of these initiatives. We started with awareness level which many people have discussed already. This is what is called Level 1 response training, just to make people aware of what it is we are talking about. And we did that with the entire emergency response community, including firefighters and others.

Level 2 response capability is what we are starting now and we have done that because of current events with avian influenza. We

have stood up one of our teams to full operational 4 level training, to be able to respond to pandemic influenza and avian influenza.

So sometimes some of these projects move ahead a little faster than what you would like to on a nice calm planning day.

The intelligence piece is really important and it is beginning to happen from an agricultural standpoint actually this year. In fact, in our 2005 enhancement budget, we have written into the plan for an agricultural intelligence analyst that will be embedded in our joint information sharing and analysis center which is part, you know, of the Joint Terrorism Task Force. That person will be able to look at information that is coming through the intelligence communities and make some sense out of it and have a matrix as to which part of the agricultural sector needs to be notified. But we are still crawling on that part but, you know, our short-term goal is to add that analyst and to begin to be active with the Joint Terrorism Task Force. And that is happening in Georgia. What is happening elsewhere, I do not have a clue.

Mr. LINDER. Mr. Black, are we getting anywhere close to having farmers come in and sit down and talk about training issues?

Mr. BLACK. Yes, sir, absolutely. I think there is a great hunger for it. They recognize, as has been said in two or three discussions this afternoon, the economics, their livelihood, they understand their bank note and they understand and their banker understands their bank note and that rural economy understands that they are playing in a global marketplace that has some global risks. So yes, sir, I think we are going to see some dramatic—

And I could not agree more as far as the data that is in our ag security or our food defense handbook. It has been some tremendous training that has taken place and hopefully there will be more. And I would like to also say, Congressman, that I would love to see us do more table top exercises on preparedness. That continued training is very important at all levels in this particular arena. I have been involved in some of that and would like to see more of it take place for some of our homeland security dollars.

Mr. LINDER. Thank you. We did have a table top exercise sometime ago on foot and mouth disease. I did not realize we did not have enough bullets in America to take care of the problem.

Mr. SCOTT.

Mr. SCOTT. Thank you very much, Mr. Chairman.

Ms. Brown, I really think you have nailed it. You really have nailed the essence of why we are here, the importance of this issue and our failure up to this point.

I am very worried about our food chain. I think that is our most vulnerable point. I have tried on the Agriculture Committee since I have been there to raise this level up higher. I find myself going to be in a much better position when we go back because I will be Ranking Member of the Subcommittee on Horticulture Crops and Livestock, and this is going to be our number one issue that we are going to do.

I went down to the University of Georgia's Experimental Station down in Griffin where the world needs to know and does not know that we have a first class food safety program already under way. Clearly, we are trying to get more dollars down there to do that.

You mentioned several areas. One, we need a national strategy, do not have it. Part of that is because of lack of funding. You also mentioned certain gaps. Could you address those and give us examples of where we are weak on the national strategy, where we need to go and what these gaps are?

Dr. BROWN. Yes, thank you.

I believe that the biggest gap is the partnering with the states and local governments and the other large gap is that agriculture has to be included in the national plan.

DHS is in the driver's seat for all of this. DHS is very—does not have a lot of depth in agriculture expertise. There has been quite a bit of turnover with the agriculture experts within DHS. It is a growing organization I understand, but there is not enough in there to make the impact that the agriculture community needs to see in a plan.

Mr. SCOTT. Do you think then that it needs to be out of the Department of Homeland Security and maybe in the Agriculture Department?

Dr. BROWN. Well, it always was in the Agriculture Department but with HSPD-9, it became clear that DHS would be the lead. Somebody has to be the lead. We just need a few good people to lead.

Mr. SCOTT. What I am hearing you say is do you think that that leadership could come better if we reordered that into the Agriculture Department instead of Homeland Security?

Dr. BROWN. You know, I am not sure I could answer that. In a terrorism event—in an incidental incursion, I can see how USDA would be the lead, but in an intentional event, I do not see how we could not have DHS front and center.

Mr. SCOTT. Okay. Now let me go to one other point. In your testimony, you mentioned that the CDC had confirmed contamination of the food supply, intentional contamination.

Dr. BROWN. Yes, there have been many—yes, that is true.

Mr. SCOTT. Can you give us some examples of that?

Dr. BROWN. No. I do not believe that information is unclassified. I think just the fact that there has been intentional.

Mr. SCOTT. Well, you know that they are there, you know that they are intentional, you care not to give us examples right now.

Mr. LINDER. She cannot give us examples.

Mr. SCOTT. That is fine, I understand that. I appreciate that too.

Dr. BROWN. And it may be FDA also.

Mr. SCOTT. Well, let me ask you this then. Can you give us in your opinion whether we have put in practices in place as a result of that, have we done something about it? You may not tell us what it is.

Dr. BROWN. Yes.

Mr. SCOTT. But we have done something to—

Dr. BROWN. Yes, there are many more safeguards in place.

Mr. SCOTT. Okay, now finally I wanted to ask you, how close would you say we are to an effective national strategy, or are we close at all?

Dr. BROWN. I would say we are in the late stages—we are in the third trimester.

[Laughter.]

Mr. SCOTT. Okay, let me go to you, Dr. Williams, for a moment, if I may. In your—thank you, Ms. Brown. In your testimony, you raise some important issues which you refer to as the “Tale of Two Declarations” regarding the Declaration of Extraordinary Emergency and the Stafford Act Declaration. We have been concerned about similar situations in this connection.

Can you please elaborate on this point and give us a recommendation on how we might fix this problem?

Mr. Williams. Well, Dr. Brown alluded to this about where a change in who is in charge occurred in one of these types of incidents. And every day—probably there is something like 700 foreign animal disease investigations in the United States every year. And this is part of just doing business in USDA and state departments of agriculture and so forth.

When they find something that requires a response, if it is something that can be done, and it is not a terrorism event, it is something that can be handled within USDA, it is handled through a Secretary’s Declaration or Extraordinary Declaration of Emergency. It is usually handled by USDA.

When an incident, you know, reaches a level where USDA needs other resources outside of USDA, whether it be at the federal level or state level, it has reached a point to where we have to initiate the National Incident Management System. And when the National Incident Management System is initiated, DHS is basically in charge. In charge is a little strange. A lot of people do not understand exactly emergency management, some of the terms about who is on first type of situation.

I heard an analogy of emergency management playing the role of an air traffic controller. When one of these events requires initiation of the 15 emergency support functions that are part of the National Response Plan, it is our job as far as emergency managers to make sure that each of those ESFs can land and take off without crashing into the other. It can get refueled, it can get, you know, recreated, so forth and so on. That is our role. Now we are in charge of the overall incident, but we do not tell each of those agencies how to fly their airplane. And so that is in a nutshell what we are talking about here as far as who is in charge.

Going back to the original question of, you know, what do we do about the issue of the declaration of an emergency through the Secretary. We should really probably do nothing with that. It has served us well for over 50 years. It is a good method of handling things. But we have to, and it is going to require probably an amendment of the Stafford Act, to put “pestilence” back into the Stafford Act to allow that structure, that is the other part of how this country responds to disasters, to be able to support seamlessly those events that have overwhelmed Agriculture.

And so I hope I have not confused the issue there, but it is—

Mr. SCOTT. You cleared it up a bit.

May I ask—I did not know it was going to take so long, Mr. Chairman, may I ask Mr. Black one question?

Mr. LINDER. Yes.

Mr. SCOTT. I appreciate your kindness.

Mr. Black, you are with the Georgia Rural Development Council, is that correct?

Mr. BLACK. I serve on the Georgia Rural Development Council now; yes, sir.

Mr. SCOTT. Could you just share with us for the benefit of the audience and myself what you actually do?

Mr. BLACK. Well, the Georgia—it is actually an appointed—it is an overall looking at the rural economy, a council that Governor Perdue has and it has a lot of agricultural involvement looking at—I have served as Chairman of the Rural Economic Development Subcommittee of the Council; yes, sir.

Mr. SCOTT. You are there where the real farming is going on.

Mr. BLACK. Yes, sir, correct.

Mr. SCOTT. Let me ask you your coordination with the state Office of Homeland Security.

Mr. BLACK. Yes, sir.

Mr. SCOTT. Do you receive advisories and actions that you can take to protect the livestock or crops from intentionally or naturally occurring diseases?

Mr. BLACK. There has been a tremendous amount of growth in that information and how that has been disseminated into the agricultural community. I have served on the Ag Terrorism Task Force and have had individuals from the Georgia Agribusiness Council, my former employer, actually helping draft the plan that is here. So we have been integrated in that initiative since day one.

Mr. SCOTT. So you can report any instances that anything happens to these agencies.

Mr. BLACK. Yes, sir, there is a channel of communication; yes, sir.

Mr. SCOTT. And you have done so. And how responsive have they been?

Mr. BLACK. Well, I do not know that I have done so because I have not seen, as far as the initiation of a terrorist attack or anything actual to report.

Mr. SCOTT. I guess what I am trying to get at is you are the very local level, is what I was trying to point out. You are out there where the rubber meets the road.

Mr. BLACK. Yes, sir.

Mr. SCOTT. You are out there with the farms.

Mr. BLACK. Yes, sir.

Mr. SCOTT. And up here you have got a bureaucracy going up the line. I was just trying to find—

Mr. BLACK. Can they communicate?

Mr. SCOTT. Yes, that there is good communication. There is a system there. We are just trying to find a good national model and make sure that if something happens at a specific farm, and you are right there.

Mr. BLACK. Yes, sir.

Mr. SCOTT. I mean how quickly could you get up, is there a line of communication?

Mr. BLACK. Congressman, one area to address that is the County Extension Service or the Cooperative Extension Service and County Agents have been engaged in these trainings throughout the state. And certainly from a farmer's standpoint, his first reliance on information and communication up the chain is going to be through his

County Agent. They have been actively involved and I think that has been a good thing.

Mr. LINDER. The time of the gentleman has expired twice.

Mr. SCOTT. And I appreciate your kindness, sir, thank you.

Mr. LINDER. The Congressman from Evans.

Dr. NORWOOD. Thank you, Mr. Chairman.

Mr. Black, try to be brief.

Mr. BLACK. Yes, sir.

Dr. NORWOOD. If we have an outbreak in Georgia, foot and mouth or avian flu, tell me briefly what do we do?

Mr. BLACK. Well, there has been—the terms incidental versus an intentional.

Dr. NORWOOD. Either way.

Mr. BLACK. Those kinds of things, who sets a perimeter, who gets in charge. If it is intentional, certainly FBI and Paul was mentioning that, they come in charge and I believe our Georgia Department of Agriculture and other professionals serve as a resource.

Dr. NORWOOD. How long would it take for us to determine if it was intentional or terrorism?

Mr. BLACK. That, sir, I do not know the particular answer to, but I can find that out for you.

Dr. NORWOOD. Could it take a long time?

Mr. BLACK. It is certainly within—let us talk about AI real quickly. Foot and mouth is another thing. In AI, we have tremendous resources in this poultry industry. That test is immediate.

Dr. NORWOOD. Let us just say it is terrorism, what do we do in Georgia?

Mr. BLACK. What do we do? Well, companies will begin depopulation, working with the Department of Agriculture to secure that perimeter, so that it does not expand.

Dr. NORWOOD. So the Department of Agriculture says you have to isolate your birds or you have to start killing your birds.

Mr. BLACK. You isolate and depopulate; yes, sir, you kill. There will be some destroyed—those flocks will be destroyed.

Dr. NORWOOD. Who tells them to kill?

Mr. BLACK. Well, I am going to tell you, the industry will step up and do that because it is their—they are protecting their own interests in their economy, but certainly it is in cooperation with the Department.

Dr. NORWOOD. So it does not really matter what the feds say, we are just going to get about taking care of business in Georgia?

Mr. BLACK. We are doing some of that, but certainly USDA is a player at that table. And when you get into all the animal health and the plant health—animal health protection, that is very important and those USDA players are at the table.

Dr. NORWOOD. So you think that will be seamless without a problem? Now remember, terrorism. So now Homeland Security is in it who does not have anybody over there who knows anything about agriculture. Now what are we going to do? So says Dr. Brown, I do not know that.

Mr. BLACK. Those bridges need to be continually built and resources put in place. I mentioned quite a bit about improving communication and having those response plans, having people well

trained, so that if something does happen, that we have actually gone through some exercises so that we will know what to do.

Dr. NORWOOD. You were talking about industry is on their own and perhaps in conjunction with the University of Georgia training and planning. Is that going on out there now?

Mr. BLACK. That is going on right now. And I mentioned there will be another series this fall with producers and again, those will be more prevention issues.

Dr. NORWOOD. That falls under the heading of prevention, Dr. Williams, does it not?

Mr. Williams. Yes, sir.

Dr. NORWOOD. Well, who pays for that?

Mr. BLACK. That is how we are investing some of our Homeland Security dollars that come back for agriculture.

Dr. NORWOOD. So industry is not paying for it itself to protect itself?

Mr. BLACK. Industry has resources at the table every time they have a training, every time, they dedicate those resources within their company to train their employees, absolutely. They have extensive amount of resources dedicated to protecting the public and also protecting the economy.

Dr. NORWOOD. What I am trying to get at here is that when you look at some things with Homeland Security and Dr. Brown says well, the states need to solve it, Dr. Williams says no, the feds have got to do more. There is a lot of confusion in all that. I am interested in—as you know, being from Commerce, Georgia, how many chickens are in my district—I am interested in us knowing what to do and not worrying about what they are saying in Homeland Security or the Department of Agriculture. We need to know in Georgia what to do with this problem. Are we ready?

Mr. BLACK. We are rapidly approaching. I am going to go to the third trimester, that was a pretty good answer. When we look at our avian response plan and that draft plan that is under way, there has been tremendous progress. I am satisfied that industry understands its assets and are doing their dead level best to protect their assets and to protect that rural economy and in turn, protect the public health, yes, sir.

Dr. NORWOOD. Dr. Williams, I am focusing on that rather than prevention, though I am a big prevention person, because I do not think you can prevent. I do not think any of us are smart enough, big enough, have a way to do it. It does not take but one person with a way to get into the United States and you can certainly do that very easily on the southern border taking one handkerchief under one cow in Afghanistan. So I am going on the basis that prevention is something we need to work hard at, but if we think we are going to prevent it if it really comes about, we are wrong. We just cannot get that done.

Now Dr. Brown, I am about to run out of time, but I tend to agree with your statement and I will leave it there, that states need to handle this or we need to handle it. I like the idea of some coordination with the U.S. Department of Agriculture but it just scares the bejesus out of me to think that Homeland Security could get in the middle of it.

Dr. BROWN. May I add one thing, to tell the difference between an intentional and an accidental incursion may take months of molecular epidemiology work.

Dr. NORWOOD. Right. So we do not need to worry about which it is, we need to respond. We will figure out later. But what will Homeland Security do then? Well I think we need to worry about that.

Thank you, Mr. Chairman.

Mr. LINDER. Thank you. The gentleman from Athens wish to inquire?

Mr. BARROW. Yes, sir, Mr. Chairman, thank you.

Mr. Black, your involvement in the ag industry and your involvement with the industry's interaction with state government makes you a particularly knowledgeable source in the area of concern that I have got. I am going to throw you a couple of softballs.

I want to know what it is that we are doing that is not worth doing in light of what we could be doing with the same resources; and what is that you think we are not doing that we should be doing. So let us focus first on the first of those two questions. What, either in state homeland defense or in state ag, what are we doing that is not worth doing in light of what we could be doing with the same resources? Got any ideas along those lines?

Mr. BLACK. Congressman, that is a good question. When we—if I can skip to your second question first.

Mr. BARROW. I am not going to forget the first one though.

Mr. BLACK. We will come back to it. There is a real important point to make on the second one.

I think in order for us to protect our food supply, to be able to respond with the ag industry and work hand in hand, we must always have the best trained, well-equipped, properly motivated and respected front line workforce with our state Department of Agriculture, with USDA and all the entities involved.

Mr. BARROW. Do you think we have that?

Mr. BLACK. I think that we definitely need some resources in that area. I think that there is a motivation factor that when people are motivated in that workforce, they are better prepared and actually come to work excited about their job. There are some issues with regard to how our front line people in the State of Georgia in regards to pay scales and others that I think we do need to improve and we need to work together to meet those objectives.

Mr. BARROW. Where do the resources come from?

Mr. BLACK. Those are state resources; yes, sir. And I would suggest, maybe not familiar with as much of those particular things with USDA, but I am sure within all other areas, there is a Farm Service Agency with in USDA which you are familiar with, many of those things all track all across agriculture. And I think we need to improve our resources there.

Mr. BARROW. Other than putting your finger on resources, which they are always scarce, there is always a scarcity of resources, that leads to the first question. Is there anything that you regard as a misallocation of the existing resources? Is there anything that we should not be doing that we are doing, that we should not be doing in light of what we could be doing with the same resources?

Mr. BLACK. Congressman, I will answer it this way; one thing we must always do is be sure that when we communicate a threat or when we have a news release, when we have an incident, I think we have always got to continue to improve how we communicate to the public. And how we communicate within the agricultural arena, how we communicate with industry. Because one misstep, one misword—and that comes back to making sure we always have properly trained employees and making sure that we are engaged at every level working with commodity groups throughout the state. I think that is another improvement we can make.

Mr. BARROW. I appreciate that. Back to my question though, is there anything that we are spending our resources on that you think we should not be? Is there anything you would cannibalize or convert to other uses that we are currently utilizing now. In other words, within the realm of existing resources, are the proper priorities reflected in the limited resources we have got, is what I am getting at.

Mr. BLACK. I would say those priorities—when we look at the first year priorities, there is one element that I am reminded of. I remember we bought some 10-gallon—some five-gallon buckets for \$10.00 apiece and I hope that does not go back—these were for disinfection and some particular areas in that first allocation of resources. Certainly there is some basic equipment we need, we need to always make sure that we are getting an efficient use of our purchases.

Mr. BARROW. I will grant you. But in terms of programs for which certain resources are dedicated or committed, are there any programs that you would sacrifice in light of being able to free up those resources?

Mr. BLACK. I am not aware of any right now; no, sir.

Mr. BARROW. Okay, now shifting now from your area to the area that Dr. Brown zeroed in on. I want to commend Dr. Brown's statement for folks who want to put together a good statement, because you identified—you gave us enough background information to understand what you are talking about, but you pinpointed areas where you thought we had problems and some of the remedies, some of the things we need to fix.

And I want to zero in on one of those, because I sat here and I heard Dr. Runge say that ag inspection and agroterrorism in general are one of Secretary Chertoff's number one priorities. And yet I find from your testimony that the priorities, the top seven priorities established by Department of Homeland Security do not include agroterrorism. So he says it is one of the top, it clearly is not one of the top seven.

And you identify a clear policy choice that we need to make, to make this either one of the top seven or to extend the group of areas that all the states can participate in from seven to eight.

Can you think of anything in the top seven that you would shove aside to make room for agroterrorism if you were setting the priorities? Or does it have to go from seven to eight? Do you think all of those seven are properly rated or ranked higher than agroterrorism? Or do you think that agroterrorism belongs in the top seven, maybe the top three?

Dr. BROWN. It definitely needs to be near the top.

Mr. BARROW. Right now it is not in DHS's top seven and it is optional for the states to try and use some of their money on a haphazard, ad hoc state by state basis. When you are dealing with borders and an economy and stuff that moves across borders that are even more porous, by design, than our already too porous international borders. I mean to have Georgia taking the lead in some areas, as we have heard some testimony on, and then have Alabama and South Carolina not able to or not willing to—probably not able to—it is amazing that we are that wide open. You think it definitely ought to be at the top, would you say the top two or three?

Dr. BROWN. Yes.

Mr. BARROW. All right, thank you.

Mr. LINDER. The time of the gentleman has expired.

Mr. BLACK. Congressman, could I add one more thing?

Mr. LINDER. Sure.

Mr. BLACK. This may be an extra resource that we should put on the table. And I am going to go back to my little experience in the fertilizer industry. Right after 1993, in that first terroristic attack, industry stepped in there to begin security vulnerability training for fertilizer dealers. Asked them to know their customer, better recordkeeping, better security at their facilities.

That might be one additional area where we could invest some resources in working with smaller food plants. Because I have talked a lot about industry, talked about a lot of the poultry industry, all of those are big companies. But certainly we do have some family-owned industries. Georgia is a pretty good magnet for food processing and I have worked a little bit in that arena with an initiative at the state level, some state research dollars. But security vulnerability training for some smaller food plants might be a good place for us to look to dedicate resources in the future.

Thank you for letting me add that.

Mr. LINDER. Thank you all. I appreciate your time this afternoon.

I would like to point out, Dr. Brown, that of all the expert testimony we have had today, nobody has mentioned bring back DDT. Why is that?

Dr. BROWN. Bringing back DDT.

Mr. LINDER. Yeah. It was eliminated on a theory and it is being used really widely in Africa right now to eliminate a lot of diseases. Why do experts like you not say maybe it is time to bring it back?

Dr. BROWN. I will have to look into that.

Mr. BARROW. Because it is going to get into mothers' milk eventually, that is why. We learned that the hard way.

Mr. LINDER. Thank you all.

[Whereupon, at 3:08 p.m., the Subcommittee was adjourned.]