Written Testimony of
National Pork Producers Council

Food For Thought: Efforts To Defend The Nation's Agriculture and Food

United States House of Representatives
Committee on Homeland Security
Subcommittee on Emergency Preparedness, Response and Communication

February 26, 2016

Introduction

The National Pork Producers Council (NPPC) is an association of 43 state pork producer organizations that serves as the global voice in Washington. D.C., for the nation's pork producers. The U.S. pork industry represents a significant value-added activity in the agricultural economy and the overall U.S. economy. Nationwide, more than 68,000 pork producers marketed more than 110 million hogs in 2014, and those animals provided total gross receipts of $23.4 billion. Overall, an estimated $22.3 billion of personal income and $39 billion of gross national product are supported by the U.S. pork industry.

Economists Daniel Otto, Lee Schulz and Mark Imerman at Iowa State University estimate that the U.S. pork industry is directly responsible for the creation of more than 37,000 full-time equivalent pork producing jobs and generates about 128,000 jobs in the rest of agriculture. It is responsible for approximately 102,000 jobs in the manufacturing sector, mostly in the packing industry, and 65,000 jobs in professional services such as veterinarians, real estate agents and bankers. All told, the U.S. pork industry is responsible for nearly 550,000 mostly rural jobs in the United States, and U.S. pork producers today provide 23 billion pounds of safe, wholesome and nutritious meat protein to consumers worldwide.

Disease and Pest Introductions

The U.S. agriculture industry and the U.S. food supply always have been at great risk from pests and disease. That risk has continued to increase over the years because of increases in travel, tourism and trade. Each passenger handbag and piece of luggage brought into the United States and every parcel mailed to this country presents a risk of transporting disease to some sector of the agriculture industry. Large volumes of commodities and products from a wide range of countries are transported legally and illegally to the United States each year by different conveyances, all of which may be carrying a disease or hitchhiking pest. Now the country faces a new risk: terrorists weaponizing disease as a means of inflicting harm on the U.S. economy. Whether by accident or deliberate introduction, the impact of a disease or pest on U.S. agriculture and the food supply could be devastating.

Over the last few years, the United States has seen numerous introductions of pests and diseases that have affected agriculture production. Citrus Canker and Citrus Greening are wrecking havoc on the Florida citrus industry. Other pests that serve as disease vectors have had a serious impact on fruit and vegetable production in other parts of the country, particularly California. In April 2013, Porcine Epidemic Diarrhea infected a swine herd in Ohio, and it spread rapidly through most of the U.S. swine industry, resulting in an estimated loss of more than 8 million newborn pigs, which took an emotional toll on producers and ultimately increased prices to consumers. Subsequently two other swine diseases of Asian origin were discovered, Delta Corona Virus and Orthoreovirus. In 2015, High Pathogenic Avian Influenza (HPAI) was discovered in poultry flocks in the Midwest, resulting in the culling of millions of turkeys and laying hens, particularly in Iowa and Minnesota.

Current Threats

When compared with many countries in the world, U.S. agriculture is relatively free of pests and disease. Through cooperation between the government and agriculture industries, some of the most serious pests and diseases have been eradicated. Foot and Mouth Disease (FMD), Classical Swine Fever (CSF), Pseudorabies in swine, Screwworm, Cotton Boll Weevil and numerous fruit fly infestations have all been successfully eradicated but at great cost to taxpayers and the affected industries. Yet all these diseases and pests still lurk around the world, some very close to the U.S. mainland, and are still serious threats.

Of particular concern to the livestock industry is FMD, a highly contagious viral disease affecting all cloven hoofed animals. FMD is easily spread by livestock movement, wind currents, on vehicles that have traveled to and from infected farms and on inanimate objects that have come in contact with the virus. This economically devastating disease is endemic in 113 countries around the world. In 2014, the World Organization for Animal Health (OIE) reported 779 FMD outbreaks in member countries. The structure of the U.S. livestock industry makes the United States particularly vulnerable to a large-scale FMD outbreak. There are an estimated 1 million pigs and 400,000 cattle moved daily in the United States, some over long distances, and there are numerous auctions, fairs and exhibits that concentrate large numbers of animals in a single location. Those movements and concentrations provide opportunities for one infected or exposed animal to spread disease to a large number of animals and over long distances.

The U.S. swine industry also is very concerned about the emergence of African Swine Fever (ASF) in Russia, the Ukraine, Belarus and the Eastern European countries of Estonia, Latvia, Lithuania and Poland. ASF is a highly contagious viral disease for which there is no vaccine or method of control except strict biosecurity and culling of infected animals. The disease has become endemic in those countries' feral swine populations, with occasional spread to backyard pigs and commercial production. An ASF introduction in the United States would be devastating to the U.S. pork industry.

Also of great concern is CSF. Previously eradicated from the United States, it lurks very close to the U.S. mainland in Hispaniola. It is also prevalent in Central and South America and other countries around the world. Vaccines are available and stockpiled for use, but an outbreak in the United States would have serious economic consequences.

While the above highlighted diseases are the livestock industry's worst fears, the U.S. Department of Agriculture's Animal and Plant Health Inspection Service (APHIS) focuses on preventing 160 animal diseases from entering the United States. Animal and plant diseases can be devastating to agriculture production, but the high value of animal agriculture makes introduction of animal diseases far more economically significant. Pests and diseases of concern are monitored by U.S authorities through port-of-entry inspections and surveillance by APHIS and state departments of agriculture.

Consequences of Pest and Disease Introduction

Introduction of pests and diseases can have severe economic consequences for agriculture production, consumer prices and, potentially, food availability. Also of great concern is the loss of export markets. The United States is required by the International Plant Protection Convention (IPPC) and the OIE to report pest and disease introductions that are listed by those international bodies as economically significant or trade limiting or that are new or emerging diseases. In most cases, such reporting would result in an immediate loss of exports for the affected commodity or products, causing a precipitous drop in U.S. market prices.

The economic consequences of disease introduction are often not limited to just one agriculture sector. Iowa State University economist Dermot Hayes estimates that an FMD outbreak in the United States would result in revenue losses to the beef and pork industries of $12.9 billion per year over a 10-year period; the corn and soybean industries are estimated to lose $44 billion and $24.9 billion, respectively. These estimates do not include losses to the dairy industry. Also, they do not include the costs, which are likely to be millions of dollars, to the federal and state governments for culling, vaccinating and other activities associated with controlling the disease.

Improved Protection

There have been several improvements in the systems to safeguard U.S. agriculture. Creating the Bureau of Customs and Border Protection (BCBP) and combining APHIS's agriculture inspectors into that single agency has been a positive development. In the early stages of the reorganization, there appeared to be a lack of focus by BCBP on the importance of agriculture inspections, but pressure from the agriculture industries and members of Congress resulted in significant improvements over time. Anecdotal evidence gathered through interviews with agriculture inspectors formerly housed in APHIS suggests improved enforcement of agriculture regulations through use of the broader enforcement authority of BCBP. However, much remains to be done to improve the ability of the United States to exclude plant and animal pests and diseases from entering the country.

APHIS has worked with the animal agriculture industries to develop Secure Food Supply Plans for pork, beef, milk, turkeys and eggs. The plans, which are in various stages of development, focus on tightened biosecurity and compartmentalization of diseases to allow movement of animals to slaughter and products to the marketplace. They also allow for movement of live animals within a compartment. If the United States can gain acceptance of these plans by its trading partners, it will lessen the economic impact of a disease.

Communications among state and federal agencies also have improved, and the Department of Homeland Security has assisted with exercises to test the country's preparedness for disease outbreaks. Additionally, creation of the Food and Agriculture Sector Coordinating Council has raised awareness of the need for biosecurity throughout the food chain.

Vulnerabilities

Even though there have been significant improvements in the systems for safeguarding U.S. agriculture and the nation's food supply, there are still significant vulnerabilities and challenges that must be addressed. They include:

An insufficient quantity of FMD vaccine. With support of the livestock industry, APHIS changed its policy on managing an FMD outbreak from culling all infected and exposed animals to one of vaccination in all but the smallest of outbreaks. Based on experience with outbreaks in the U.K. and Korea, the United States simply cannot euthanize its way out of an outbreak; vaccination is the only realistic alternative. When discussing how this policy would be implemented, it became apparent that to deal with an outbreak there was not enough vaccine available nor could a sufficient quantity be obtained in time to implement an effective control program.

The United States is the only country in the world that maintains its own vaccine antigen bank, and it serves all of North America. The bank is maintained at the Plum Island Animal Disease Center (PIADC) on Plum Island, N.Y., and has a limited number of antigens. Under the current manufacturer(s)' contract, antigen is shipped to Europe where it is made into finished vaccine that then is shipped back to the United States. After three weeks, this process would produce only 2.5 million doses of vaccine. Dr. James Roth, professor and researcher at Iowa State University, estimates that at least 10 million doses would be needed during the first two weeks of an outbreak. Currently, there is no surge capacity to produce additional doses of vaccine. All the vaccine production capacity in the world is currently in use by other countries.

Current law prohibits live FMD virus from being introduced onto the U.S. mainland, so foreign production companies are the only source of finished vaccine. It has been suggested that recombinant DNA vaccines that do not use live FMD virus can be produced in the United States, thus avoiding the legal prohibition of having live virus on the mainland. However, current data is not sufficient to determine how quickly, and indeed whether, such vaccines provide protection outside the laboratory environment and for all species. The United States is likely years away from the development and commercialization of such novel vaccines. While developing such a vaccine would be a positive move, the reality is that the U.S. livestock industry must have vaccines that are protective against the strain of FMD that might be in a sample sitting at the PIADC for analysis at this very moment!

The House Agriculture Committee's Subcommittee on Livestock and Foreign Agriculture held a hearing Feb. 11, 2015, on the FMD vaccine shortage. The livestock industry made it clear that a solution to the vaccine shortage must include a contract for an offshore, vendor-maintained bank that includes antigen for all 23 FMD types that are currently circulating in the world and that a contract be awarded for surge capacity to produce sufficient quantities of vaccine for an outbreak in the U.S. livestock herd.

Gaps in U.S. biosecurity. Both USDA and DHS focus a lot of attention on test exercises, and those are very beneficial activities. In most outbreaks, the first problem encountered is the lack of biosecurity, which contributes to the spread of disease. By the time adequate biosecurity is established the disease has been spread over much larger areas and control becomes much more

challenging and costly. Test exercises do not accurately reveal what happens during an actual outbreak.

Current pork production methods concentrate large numbers of animals in a single location, and the pork industry has always prided itself on having a robust biosecurity system. However, during the PEDv outbreak in 2013, the industry discovered serious gaps in biosecurity that contributed to spreading the disease. The same problem was also identified in the HPAI outbreak in 2015.

One solution to this problem is that, in addition to test exercises, federal and state agencies need a more robust review of biosecurity measures in each sector of the agriculture industry. Producers and their allied industries should be provided resources to increase training on the importance of biosecurity and how to identify gaps in their systems. While this would require additional resources, the potential savings to the government are significant, providing a very favorable cost/benefit ratio.

More robust scrutiny of imports. Federal agencies are relying too much on the ports of entry as the first line of defense against pest and disease introduction. More emphasis must be placed on what happens during processing and production of products in the countries of origin. With most cargo being moved in containers, thorough inspection at the port of entry is virtually impossible. APHIS prepares risk assessments for all plant- and animal-origin products moving into U.S. territory, and in many cases those assessments are based on information supplied by government officials and do not always include a site visit. Further, because of resource constraints, there is not enough follow up to assure that risk mitigations are being followed.

The U.S. Food and Drug Administration is responsible for inspection of feed and feed ingredients produced in foreign countries and in the United States. Not enough resources are being made available to APHIS and FDA to do a thorough inspection of foreign manufacturers to determine if they are following Good Manufacturing Practices and if government regulation and oversight are effective. That shortfall increases the risk to U.S. agriculture of disease introduction.

The strain of the PED virus introduced into the United States was determined to be of Chinese origin. But government officials responsible for overseeing port-of-entry inspections and disease risk management have been unable to specifically identify the source or means of introduction of the virus even though APHIS conducted a root cause investigation. If there were a gap in the U.S. safety net that allowed the recent introduction of PEDv and Delta Corona virus, it also remains open for FMD!

Traceability. The U.S. pork industry has been a vocal advocate for a robust nationally standardized mandatory system for animal traceability. APHIS spent years working on a system of individual animal identification to allow accurate tracing of the movement of livestock, which is an absolutely critical component of any system for managing disease. Unfortunately, opposition from some sectors of the livestock community resulted in a compromise that provided only a state-based system that requires each state to be able to trace livestock movements within its state. The current traceability system is inadequate for use in a disease outbreak. In fact, it is not even recognized as adequate to meet the requirements of some major U.S. trading partners.

Resource constraints. Many of the shortfalls identified in this testimony result from of a lack of adequate resources. Risks to U.S. agriculture and the U.S. food supply have increased dramatically over the last few years and have now been exacerbated by the threat of terrorists targeting agriculture production. At the same time, funding provided to maintain the country's safeguarding systems have been reduced. It is hard to conceive that enough efficiencies can be found to address an increasing threat and save money at the same time. Collectively, the agriculture industry, the Obama administration and Congress must face the reality that addressing these serious shortcomings in the U.S. safety net will require a significant outlay of additional funds. We can't have it both ways! The history of government involvement in disasters such as disease outbreaks is that once an outbreak occurs unlimited resources are committed to getting control of the situation. The savings everyone wants to make can be achieved by investing now in the nation's preparedness and avoiding a more costly disease eradication program in the future.

Gaps in early detection. Early disease detection and rapid response to any outbreak provide the best opportunity to limit the spread of Foreign Animal Diseases (FADs). Even though there is surveillance in place for CSF, ASF and FMD, it is apparent that the funding is wholly inadequate to provide a high level of confidence that one of these trade-limiting FADs will be rapidly detected in time to make a difference. This is evidenced by the discontinuation in 2015 because of a lack of funding of a pilot project conducted by USDA's Veterinary Services, using the surveillance infrastructure built for CSF to actively detect ASF and FMD.

Data sharing for regulated diseases. As evidenced during the HPAI outbreak, the amount of movement, testing and premises data that needs to be captured, analyzed and visualized by the APHIS incident command – responsible for dealing with animals disease outbreaks – to support disease response and business continuity activities is staggering. While the various pieces of this type of data exist, much of it resides in disparate databases that do not readily and easily communicate, which hinders the response and jeopardizes animal welfare. The industry is very concerned that this lack of connectivity will have direct and negative effects that will hinder the response to a foreign animal disease of swine.

Conclusion

There seems to be a growing consensus that there are serious flaws in the country's preparedness to deal with threats to U.S. agriculture and the U.S. food supply.

The Bipartisan Report of the Blue Ribbon Study Panel on Biodefense, co-chaired by former DHS Secretary Tom Ridge and former Sen. Joe Lieberman and released Oct. 28, 2015, highlighted the need for improvements in the system for protecting the U.S. livestock herd and the nation's food supply. Concerns about the adequacy of the country's preparedness also were raised in a Nov. 4, 2015, hearing of the House Agriculture Committee.

NPPC urges Congress to use the information gathered in that hearing and in the Blue Ribbon Study Panel report to work with the Obama administration on finding solutions to improve the preparedness of the United States to deal with any pest or disease outbreak.