Swine Health Business Plan
Fiscal Year 2017
Animal and Plant Health Inspection Service
Veterinary Services

I. Program Description

Overview of the Swine Sector

Since the 1990s, the U.S. hog industry has made a rapid shift to fewer and larger operations, associated with technological changes and an evolving industry structure. In 2014, 93 percent of the hogs were produced on operations with at least 5,000 head. Today more than 68,000 U.S. pork producers market over 110 million hogs annually.[1] These animals provide total gross receipts of approximately $23.4 billion, making the United States the world's third-largest producer of pork and pork products and the world's second largest exporter of pork and pork products. U.S. pork exports have averaged over 20 percent of total commercial pork production in most years.[2] As with all agricultural exports, swine production has significant linkages to the nonfarm economy, particularly through impacts to employment and off-farm business activity. The swine industry supports about 550,000 jobs and adds approximately $39 billion to the gross domestic product.

Recent growth in domestic pork specialty markets, such as organic and pasture raised pork, have led to the rapid expansion of niche farming practices. These niche farms tend to be smaller, less biosecure operations with a higher risk for swine diseases through feral swine exposure and less rigid management practices. The consequences of higher disease risk activities have the potential to negatively impact pork exports. Because pork is the most consumed animal protein in the world, protecting this large and vigorous industry is economically prudent, and critical for ensuring a safe food supply for domestic and international trading partners.

Core Program Goals and Objectives

The core program goal is to partner with States, industry, Tribes, Federal agencies, and other stakeholders to safeguard the health of the U.S. swine populations, and to facilitate trade in swine and pork products. Three operational objectives support the Swine Health Program's core goal.

Objective 1: Detect and determine the status of swine diseases of interest to stakeholders and facilitate trade through comprehensive integrated surveillance.

Objective 2: Enhance communication and outreach with all stakeholders.

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[1] National Pork Producers Council website http://nppc.org/pork-facts/ accessed Dec 27, 2016.

[2] USDA Economic Research Service

Objective 3: Coordinate foreign, emerging, and zoonotic disease prevention, detection, emergency preparedness, planning, and response.

Program Components

Comprehensive and integrated surveillance (CIS)
APHIS is adopting a CIS approach in all animal health commodity sectors. It focuses on cost-efficient, targeted surveillance for diseases of interest. CIS utilizes multiple established data collection streams to meet the surveillance objectives (i.e., rapid detection, substantiating disease status claims, monitoring for disease incursions). APHIS then uses follow-up epidemiological investigations in the field to document the disease status in selected U.S. herds. Diseases approached under the CIS framework in swine include:

- Program diseases such as pseudorabies virus (PRV) and swine brucellosis (SB);
- Endemic diseases such as influenza A virus in swine (IAV-S) and swine enteric coronavirus diseases (SECD);
- Foreign animal diseases (FADs) like classical swine fever (CSF),
- Emerging diseases such as: Senecavirus A (SVA), novel influenza viruses in swine, zoonotic diseases or other novel diseases that may not yet have been recognized.

Identification of any of these diseases may require some level of disease investigation and disease control activities in the field. The recent growth of niche (organic and pasture-raised) farming practices in the United States has increased the importance of swine disease surveillance activities and overall policy review due to the potential of exposure to feral swine. Veterinary Services (VS) works closely with APHIS Wildlife Services under the National Feral Swine Damage Management Program to monitor selected diseases in feral swine.

Communication and outreach with stakeholders
VS actively engages the swine industry, State animal health officials, Tribes, academia, and federal partners to receive input on swine health programs and activities. VS also seeks to provide information on current and upcoming activities to stakeholders as well as education and outreach opportunities. VS performs these activities at both the national and local levels.

Emergency and zoonotic disease preparedness, prevention and response
Natural disasters, FADs, and emerging diseases can have devastating effects on the swine industry. Strategic plans for responding to such events need to be cooperatively developed and exercised to be ready for rapid implementation. Emergency preparedness activities will focus on frequent collaboration with stakeholders regarding strategic emergency planning and response. This planning includes a framework for addressing emerging disease, incident response, and the development of training and educational materials. Activities may also include enhancement and capacity building of the National Animal Health Laboratory Network (NAHLN), enhancement of information systems data management (including electronic

messaging and data exchange), development of regulations for animal health emergencies, and the development and use of diagnostics for disease detection.

National Import Export Services (NIES) activities for swine

APHIS is committed to increasing international trade opportunities for the pork industry. As the industry identifies animal health issues that affect their markets, NIES works with Swine Health Program staff to determine how to best characterize the issues and whether existing programs can assist in opening markets. NIES may also assist in establishing partnerships or oversight of industry processes in order to facilitate opening markets.

Funding sources

Swine Health Program activities are funded through the swine health budget line item. Appropriations for fiscal year (FY) 2016 totaled $24.8 million. For FY 2017, APHIS is under a continuing resolution expiring on April 28, 2017. A final appropriations figure has not yet been established.

A small amount of funding is received from the APHIS National Feral Swine Damage Management Program to fund diagnostic testing of feral swine.

II. FY 2016 Key Accomplishments

- Collaborated with industry, diagnostic laboratories, and State stakeholders to modify the surveillance process for influenza virus in swine in order to conserve funding to ensure program continuation while still meeting the goals of the program.
- Developed *VS Guidance 7406.2: Recommendations for Swine with Potential Vesicular Disease*. This document emphasizes that FAD investigations are required even when Senecavirus A is suspected.
- Completed a cooperative agreement for the development of a PRV PCR assay that can be used in surveillance and outbreak response activities.
- Developed a plan for the establishment of a limited set of NAHLN laboratories to support swine testing and enhanced emergency response diagnostic testing.
- Completed a cooperative agreement to evaluate truck wash station services and create a database that can be used to assist with biosecurity.
- Assessed the methodology and cost effectiveness of current swine PRV surveillance activities. APHIS eliminated PRV meat juice testing activities based on the findings of the assessment.
- Provided oversight for outbreak response and control activities associated with the identification of several epidemiologically linked swine brucellosis positive herds in the Northeastern United States. Ongoing epidemiologic investigations spanned 14 States and identified 9 positive herds in four States. At least one confirmed human case of brucellosis is linked to this outbreak.

- Initiated an agreement and provided partial funding for a Swine Health Information Center (SHIC) information technology project. This project will expand HL7 message uses and applications, and build and host a web-application tool that will allow all NAHLN labs to troubleshoot message construction and demonstrate their ability to electronically message complete diagnostic information via a standardized approach.

- Initiated stakeholder outreach with State and industry stakeholders regarding brucellosis and PRV program challenges related to high-risk swine herds.
- Identified several programmatic modifications that will produce cost savings without affecting programmatic objectives.
- Engaged in discussions with industry regarding the potential for development of a negligible risk compartment for trichinella to enhance trade opportunities for fresh pork.
- Participated on the VS Incident Management Team during training initiatives and during HPAI and screwworm response activities.
- Provided guidance and review of planned swine activities outlined in FY2016 State umbrella cooperative agreements.
- Participated in drafting frameworks for the Emerging Animal Disease Preparedness and Response Plan and the U.S. National List of Reportable Animal Diseases for stakeholder comment.

III.   FY 2017 Priority Activities and Overview of FY 2018 - FY 2019 Goals

Objective 1: Comprehensive and integrated surveillance in swine (CIS-swine)

FY 2017 priority activities

Activity 1.1: (Surveillance) Coordinate existing surveillance activities for the following swine diseases: CSF, IAV-S, SECD, PRV, and SB.

Activity 1.2: (Regulations) Initiate a comprehensive review of sections in Title 9, Code of Federal Regulations (9 CFR) and all associated policy documents (Uniform Methods and Rules, program standards, guidance documents) related to codified swine program diseases (brucellosis, pseudorabies, swine health protection, trichinella). Begin development of an action plan for a swine diseases regulatory update that incorporates needed changes to support CIS-swine and address disease threats raised via high-risk swine. Provide a status update by September 30, 2017.

Activity 1.3: (Diagnostic testing) Following formal policy approval, focus CIS-related swine testing in selected NAHLN labs with a goal of beginning on or after October 1, 2017. Refer to Activity 2.2 for stakeholder outreach.

Activity 1.4: (Surveillance) Develop a messaging and implementation plan (VS, States, FSIS, laboratories and industry) for the previously approved changes in sow-boar slaughter surveillance testing for PRV and SB. (Linked to Activity 2.5)

Activity 1.5: (Surveillance) Utilizing industry input, reassess the CIS-swine surveillance plan and update case definitions, surveillance objectives, effectiveness, and target populations.

Activity 1.6: (Surveillance) Continue assessing the feasibility of ASF and FMD surveillance in swine.

Activity 1.7: (Surveillance) Develop summaries for inclusion in VS' Center for Epidemiology and Animal Health (CEAH) swine surveillance quarterly reports regarding field investigations of PRV and SB non-negative surveillance samples entered into EMRS for investigation.

Activity 1.8: (Programs/Budget) Review swine activities and initiatives in State umbrella cooperative agreements according to established timelines.

Activity 1.9: (Budget) Develop an FY 2018 swine commodity budget that supports critical swine activities, including ongoing costs of the swine influenza surveillance program, as envisioned in the 2016 cost reduction concurrence memo. Request appropriated funding for the IAV-S program for FY 2019.

Activity 1.10: (Trichinella) Work with stakeholders to develop a surveillance plan and auditing processes that can support a negligible risk compartment for *Trichinella* spp. This activity will be impacted by a swine industry decision on whether to move forward with a compartmentalization approach to mitigate *Trichinella* risks in fresh pork products.

Future Goals and Activities (FY 2018 – FY 2019)

Future Goal 1.1: Initiate the regulatory process based on the comprehensive review of 9 CFR swine program disease sections and associated policy documents as outlined in FY 2017 Activity 1.2.

Future Goal 1.2: Continue to modify CIS-swine as necessary to deal with high-risk producers. These modifications will be identified by the working group described under Activity 2.1.

Future Goal 1.3: After 1 year, assess the efficiency and cost effectiveness of the NAHLN swine testing centers. Modify processes as appropriate.

Future Goal 1.4: Evaluate the performance of the CIS-swine surveillance activities, including surveillance reporting, and modify as appropriate.

Future Goal 1.5: Develop and put into place the appropriate USDA oversight of the Trichinella compartmentalization framework that will be acceptable to trading partners, based on the outcome of FY 2017 activities.

Objective 2: Communication and outreach with stakeholders

FY 2017 priority activities

Activity 2.1: (Outreach) Establish a working group composed of subject matter experts to engage in discussions on how APHIS can improve swine programs and

disease control, based on the comprehensive review of the 9 CFR and associated policy documents for swine program diseases as related to higher risk herds. (see Activity 1.2)

Activity 2.2: (Communication) Provide information to States, Tribes and industry regarding plans for centralizing swine surveillance testing to ten designated NAHLN laboratories prior to implementation. (Linked to Activity 1.3)

Activity 2.3: (**Communication**) Collaborate on the development of shared data standards and the use of the data standards in software development and laboratory messaging of swine test results.

Activity 2.4: (**Communication**) Improve processes for how swine disease program data is collected, recorded, validated, stored, and analyzed to maximize program efficiency and efficacy while protecting the security of the information.

Activity 2.5: (Outreach) Develop a communication plan prior to implementation of the previously approved changes for sow-boar slaughter surveillance testing for Pseudorabies and swine brucellosis. (Linked to Activity 1.4)

Activity 2.6: (**Communication**) Update APHIS web pages for swine programs.

Activity 2.7: (Communication) Participate in swine sector meetings with APHIS leadership as well as other opportunities for industry engagement such as United States Animal Health Association, National Institute of Animal Agriculture, American Association of Swine Veterinarians, and National Pork Board Unified meetings.

Activity 2.8: (Reporting) Collaborate with stakeholders (States. industry, academia, and diagnostic labs) to develop a comprehensive and integrated surveillance report.

Activity 2.9: (Reporting) Continue with SECD reporting, and collaborate with CEAH to streamline and revise the report based on stakeholder feedback.

Activity 2.10: (Guidance) Update *VS Guidance 7400.1 Reshipment of Swine from Slaughter Facilities* (previously issued as VS Memorandum 561.37).

Activity 2.11: (Guidance) Revise *VS Guidance 7406.2: Recommendations for Swine with Potential Vesicular Disease* to clarify guidance.

Activity 2.12: (Communication) Evaluate, communicate, and discuss data related to potential emerging animal disease risks and concerns with Industry, State Animal Health Officials, and Tribes, and develop response options.

Future Goals and Activities (FY 2018 – FY 2019)

Future Goal 2.1: Continue the SME working group that was initiated in FY 2017 to improve swine programs and disease control.

Future Goal 2.2: Collaborate with LPA and stakeholders on the development of biosecurity educational materials that target small scale commercial and pasture swine producers, and backyard hobbyists. Dispense these educational materials through web access as well as local and national outreach activities.

Future Goal 2.3: Continue updating official swine program documents and any websites not completed in FY 2017.

Future Goal 2.4: Collaborate with CEAH to provide routine and timely reporting of all CIS-swine surveillance data to stakeholders.

Future Goal 2.5: Continue dialogue with Industry, State Animal Health Officials, and Tribes on emerging animal disease issues.

Objective 3: Emergency and zoonotic disease preparedness, prevention and response

FY 2017 priority activities

Activity 3.1: (Response) Finalize a guidance document entitled *Procedures for handling swine herds with brucellosis or Pseudorabies.*

Activity 3.2: (Prevention) Provide support for the national list of regulatory animal diseases (NLRAD) by ensuring open communication with swine commodity representatives. Develop a summary of industry responses and provide the feedback to the National Animal Health Reporting System coordinator.

Activity 3.3: (Zoonosis) Collaborate with One Health stakeholders to determine how public health information can contribute to the investigation and evaluation of zoonotic issues.

Activity 3.4: (Zoonosis) Collaborate with the USDA Agricultural Research Service on IAV-S surveillance development and molecular analysis of data through monthly calls and quarterly reports from ARS based on USDA-generated surveillance data.

Activity 3.5: (Response) Monitor the cooperative agreement with industry (through the SHIC) for Rapid Response Teams and participate in APHIS-funded investigations as requested.

Activity 3.6: (Preparedness) Continue to engage with industry on emerging diseases.

Activity 3.7: **(Preparedness)** Participate in developing the Incident Command Group (ICG) and Preparedness and Response Team (PRT) framework, including Secure Pork Supply (SPS) activities.

Activity 3.8: (Preparedness) Assess the risk posed by a possible emerging animal disease in the United States, and gather information upon which to base possible response activities.

Future Goals and Activities (FY 2018 – FY 2019)

Future Goal 3.1 Implement validated oral fluid sampling into outbreak response protocols for ASF, FMD or CSF surveillance, if applicable.

Future Goal 3.2: Continue participating in developing the ICG and PRT framework, including SPS activities.

Future Goal 3.3: Continue collaborations with ARS and One Health Stakeholders regarding zoonotic swine issues.

Future Goal 3.5: Continue to participate in NLRAD activities as the NLRAD moves toward rulemaking processes.

Future Goal 2.6: Continue collaboration with CEAH to assess the risk and possible response activities for emerging animal disease in the United States.