Planning for a Secure Pork Supply in the Event of a Foreign Animal Disease (FAD) Outbreak

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Three FADs will Cause the Loss of Fresh Pork Exports

- Foot and Mouth Disease (FMD)
  - Affects all cloven hoofed animals
  - Cattle, swine, sheep, goats, deer, etc.

- Classical Swine Fever (CSF) (hog cholera)
  - Only affects swine

- African Swine Fever (ASF)
  - Only affects swine

Not a public health or food safety concern
Day 1 of an FMD, CSF, or ASF Outbreak

- Notification of **World Organization for Animal Health (OIE)** and member countries
  - FMD: All exports of cattle, swine, sheep, goats and their uncooked products will be STOPPED
  - CSF or ASF: All exports of swine and their uncooked products will be STOPPED

- Control Area(s) established to manage movements

- Prices will drop

- Consumer confidence at risk

Beef, pork, and dairy exports = ~ $19 billion/year
Cost of treatment, control and eradication = ??
Commodity prices would drop dramatically

Source: http://www.qtagonline.com/ginzel-weekly-hog-pork-report-4-8-2016/
FMD: The MOST Contagious Disease of Animals

- 96 countries in the world are endemic for FMD

- The U.S. has had 9 outbreaks of FMD 1870 to 1929
  - All outbreaks controlled by stop movement and stamping out

- Can no longer count on stop movement and stamping out to control FMD
  - Very large herds
  - Areas with very high livestock density
  - Inadequate biosecurity
  - Carcass disposal issues
  - Extensive movement of animals
  - Large feral swine and deer populations
Tools for Control of Foreign Animal Disease

- Stop Movement
- Biosecurity
- Stamping Out
  - Depopulate all clinically affected and in-contact susceptible animals (within 24 hours or as soon as possible)
- Trace-back/Trace-forward
  - 28 days prior to outbreak
- Rapid Diagnostics
- Vaccination
  - FMD vaccine is strain specific: Requires 23 different vaccines to cover all strains
Vaccine Availability

- **FMD and CSF**
  - Vaccine will not be immediately available, and will be in short supply for many months when finally available

- **ASF**
  - No vaccine

- Vaccination will not be a viable option for initial rapid control of these FADs in a large FAD outbreak
Potential Types of an FMD Outbreak

Response Shifts from Emphasis on Stamping-Out to Emphasis on Alternate Strategies (duration of FMD response)

Size of FMD Outbreak (in terms of animals, premises, and jurisdictions affected)

- **Type 1:** Focal
- **Type 2:** Regional
- **Type 3:** Large Regional or National
- **Type 4:** Widespread or National
- **Type 5:** Catastrophic U.S.
- **Type 6:** Catastrophic North American
Economic Impacts of FMD

- Center for Agricultural and Rural Development Food and Agricultural Policy Research Institute (CARD FAPRI) model (Dr. Dermot Hayes) (2011)
  - Cumulative losses over 10 years = $199.8 Billion
    - Pork – 57 Billion
    - Beef – 71 Billion
    - Poultry – 1 Billion
    - Corn – 44 Billion
    - Soybeans – 25 Billion
    - Wheat – 1.8 Billion

Funded by the National Pork Board
Iowa has More at Risk than any Other State

• Most livestock dense state (24 million FMD susceptible animals)

• Number 1 in corn and (often) soybean production

• Many Iowans employed in production and processing industries

• State tax revenues dependent on agriculture
Secure Food Supply Plans
Movement from Premises with No Evidence of Infection

**HPAI**
- Secure Egg Supply
- Secure Turkey Supply
- Secure Broiler Supply

**FMD**
- Secure Milk Supply
- Secure Beef Supply

**FMD, CSF & ASF**
- Secure Pork Supply
**Goal:** Provide a workable business continuity plan for pork premises with no evidence of the FAD infection and associated industries that is credible to Responsible Regulatory Officials.

**Voluntary**
Plan Development

- Industry-State-Federal-Academia partnership
- Funded by USDA APHIS and NPB
- Voluntary participation before the outbreak
- Movements either to slaughter or to the next stage of production
- Revise, pilot test, lessons learned
Common Components of Secure Food Supply Plans

- **Voluntary** pre-outbreak preparedness
- Biosecurity
- Surveillance
- Epidemiology questionnaires
- Movement permit guidance
- Risk assessments
  - Completed and in process
• Establish Control Area
  – Infected and Buffer Zone
  – Quarantine
  – **Movement by permit only, based on risk**
  – Movement controls in place until Control Area released
  – Secure Food Supply Plans working on domestic movement for uninfected premises
Controlled Movement

• Day 1 of an FMD, CSF, or ASF outbreak
  – Stop movement from the Control Area
    • No new movements initiated from FAD Control Area
  – Animals already in transit need to land somewhere
    • Continue on to their destination
    • Return to site of origin
    • Handled somewhere in between
  – Producers may need to manage their animals without moving animals for several days to weeks
Movement Permits

- Have a Premises Identification Number (PIN) for each site
- Permits may be required for all movements onto, off of premises during the outbreak
Decision to Issue Movement Permits for Animals with No Evidence of Infection in a Control Area

- For movement of live animals to another production site, the premises of destination must agree to accept the risk of receiving the animals and the owners of the production site of origin must request a movement permit.

- For movement to slaughter, the owners of the slaughter facility must agree to accept the animals and the owners of the production site of origin must request a movement permit.

- Unified Incident Command Officials must be willing to let the animals leave the premises (and Control Area).

- State Animal Health Officials in the state of origin and the state of destination must agree to the movement.
Decision to Approve Movement May Be Influenced By

- Degree of confidence that animals are not infected
- Phase and Type of FMD, CSF, or ASF response
- FAD status of the states of transit, destination
- Final destination
  - In a Control Area
  - Slaughter
  - Another production site
- Vaccination
- Animals recovered from infection
- Consequences of not allowing movement
SPS Plan Summary

- How producers can prepare prior to an outbreak
- Information which may be needed to request a movement permit
SPS Plan Summary

- Links to documents utilized for response planning:
  - Foot-and-Mouth Disease Response Plan: The Red Book
  - Classical Swine Fever Response Plan: The Red Book
  - African Swine Fever Disease Response Strategy
    [www.avhias.usda.gov/animal_health/emergency_management/strategies/cfsf_res
     ponencstrat.pdf](www.avhias.usda.gov/animal_health/emergency_management/strategies/cfsf_respondencstrat.pdf)

- Strategies for the response to, and management of, an FMD outbreak will change as the outbreak progresses (phase) and will depend upon the magnitude (type), location, other characteristics, and vaccine availability. These pre-defined phases and types of an FMD outbreak are described in the guideline document FAD PRéP Classification of Phases and Types of a Foot-and-Mouth Disease Outbreak and Response and are facilitating development of adaptable emergency response and business continuity plans for the U.S. livestock industry in the event of an FMD outbreak in North America.

- Surveillance, epidemiology, and tracing techniques will be utilized by Responsible Regulatory Officials during the outbreak to detect new cases, understand the dissemination, and provide information to the public for:  
  - Control of the outbreak by detecting the disease in affected premises and implementing control measures on infected premises.
  - Early identification of new cases in other premises to prevent further spread.
  - Determination of the extent of the outbreak.
  - Analysis of the risk factors associated with the outbreak.

- Quarantine and movement controls are critical activities to control FADs. This includes establishing a Control Area around each infected premise and to ensure that movement orders for people and other susceptible animals in a Central Area. The USDA has developed the FAD PRéP/NAHMS Guidelines: Quarantine and Movement Control that describes these measures.
  [www.avhias.usda.gov/animal_health/emergency_management/downloads/ahsms_guideli

- However, quarantine and movement control can cause serious and significant disruptions arresting infection and interrupt commerce, particularly for non-infected premises in a Central Area. These non-infected sites will be quarantined and restricted from moving animals off the site without a movement permit. The USDA has developed FAD PRéP/NAHMS Continuity of Business (COB) Guidelines. These guidelines provide the
Biosecurity to Control Introduction of Novel Diseases

Biosecurity is expensive and inconvenient

- Producers implement the level of biosecurity needed to protect from endemic diseases
  - There is herd immunity to most endemic diseases
  - Low levels of pathogen shedding and high levels of resistance

- The routine level of biosecurity is not sufficient to protect from a newly introduced highly contagious disease (e.g., FMD, CSF, ASF)
  - No herd immunity
  - High levels of pathogen shedding and low levels of resistance
Importance of Being Earnest with Biosecurity

- Structural biosecurity – Built into the facility

- Operational biosecurity – Standard operating procedures followed by all workers on the site

- Biosecurity only works if everyone on the production site understands the importance of biosecurity and follows the biosecurity protocols all of the time
New biosecurity recommendations emphasize four concepts that may be new to most biosecurity plans and should be strongly considered for implementation in all commercial operations:

1. Biosecurity Manager
2. Written site-specific biosecurity plan
3. Line of Separation
4. Perimeter Buffer Area
Principles of Biosecurity for Secure Food Supply Plans

- It is the producer’s responsibility to keep their animals from becoming infected (this has always been true)

- A **site specific biosecurity plan** is needed and must be adhered to by everyone all of the time

- A **biosecurity Manager** with expertise in infectious diseases and production animal agriculture and familiar with the facility, should develop the plan and monitor to ensure that it is continuously followed
The **Line of Separation (LOS)** separates the animals from all possible sources of infection

- Nothing should cross the LOS that can introduce infection
- Animals housed indoors, walls of the building should be the LOS
- Animals with access to outdoors are more difficult to protect from infection, but the LOS concept can help
Perimeter Buffer Area

• Perimeter Buffer Area (PBA) concept is aimed at reducing virus entering and contaminating the production site.

• The area around the animal building is the Perimeter Buffer Area (PBA) where human and vehicle traffic is minimized and have taken steps to mitigate the potential for contamination.

• Complete exclusion may not be possible but reducing virus load in the outside environment will reduce risk.
Biosecurity Self-Assessment Checklist

- Biosecurity Manager and Written Plan
- Training
- Protecting the Pig Herd
- Vehicles and Equipment
- Personnel
- Animal and Semen Movement
- Carcass Disposal
- Manure Management
- Rodent, Wildlife, and Other Animal Control
- Feed

In place □  In progress □  Not In place □
Information Manual

For Enhanced Biosecurity:
Swine Raised Indoors

1. Biosecurity Manager and Written Plan

A Biosecurity Manager is identified for the site. This individual is responsible for developing the biosecurity plan with the assistance of a veterinarian (if the Biosecurity Manager is not a veterinarian) and overseeing training of all individuals who enter the site. The Biosecurity Manager has the written authority to ensure compliance with biosecurity protocols and take corrective action as needed.

The designated Biosecurity Manager for the production site is capable of writing and implementing effective biosecurity procedures. This individual should be familiar with the current structural and operational biosecurity of the production site and health status of the animals. The Biosecurity Manager can be an owner or manager, veterinarian, or employee on-site. If a system has one Biosecurity Manager for multiple sites within the system, then the on-site manager is responsible for ensuring that the biosecurity protocols for that site are followed on a daily basis. The Biosecurity Manager for a small independent producer may be the owner of...
SPS Plan Biosecurity

Create a Site-Specific Biosecurity plan

- explain how the site meets all the biosecurity measures listed in the checklist
Biosecure Entry Procedure to Cross the LOS

All equipment and supplies that cross the LOS must be cleaned and disinfected or be from a known clean source.
Line of Separation (LOS)
Perimeter Buffer Area (PBA)
Line of Separation (LOS)
Perimeter Buffer Area (PBA)
Surveillance Guidelines

• Tests currently available
• Sample options
• Visual inspection
• Not a review of sample sizes or frequencies
SPS Plan Epidemiology

Record Keeping

SPS Producer Information needed to Request a Secure Food Supply Movement Permit

April 1, 2017

Introduction

During a foreign animal disease (FAD) outbreak, producers in a regulatory Control Area will need to provide information about any animal health events or possible clinical signs of the FAD in their animals. Necessary steps are in place to prevent exposure to the FAD, and any contact with other animals or operations that may have FAD infected animals. This information will be used to determine the scope of the outbreak but can be obtained in a list of details on sheet notice.

Purpose

This document provides producers with examples of the type of information they will need to provide to animal health officials to request Secure Food Supply permits for the movement and animal product movement. This document provides producers with information about the requirements and procedures for requesting Secure Food Supply (SFS) permits for animal and animal product movement. (The USDA Foreign Animal Disease (FAD) Secure Food Supply (SFS) Reference Manual is available at: www.fas.usda.gov/foodsupply).

Surveillance Information

The surveillance document FAD, CF, and IFP Farm Surveillance Guide for FAS Control Areas (caging systems) includes current potential surveillance for porcine epidemic diarrhea virus (PEDV). Producers may be asked to collect and report data concerning asymptomatic pigs to determine the spread and source of PEDV. The PEDV surveillance program includes pigs raised in groups, buildings, and on farms or feedlots.

Biosecurity Information

Producers will need to implement and maintain biosecurity measures before requesting a movement permit. A list of all biosecurity measures and how to implement them on a site can be obtained in the following documents:

- Information Manual for Enhanced Biosecurity: Animals Raised Individually
- Information Manual for Enhanced Biosecurity: Animals Raised Individually

Questionnaire

Secure Food Supply Questionnaire

During a foreign animal disease (FAD) outbreak, producers in a Control Area will need to provide information about any animal health events or possible clinical signs of the FAD in their animals. Necessary steps are in place to prevent exposure to the FAD, and any contact with other animals or operations that may have FAD infected animals. This information will be used to determine the scope of the outbreak but can be obtained in a list of details on sheet notice.

This document provides a list of the type of information that may be requested by Responsible Regulatory Officials managing the FAD outbreak. Additional steps from the Secure Food Supply (SFS) Plan will be required in order to request an animal or animal product movement permit. Links to the various SFS Plans are at the end of this document.

Name of person filling out this questionnaire: ________________________________

Contact information (phone and email): _____________________________________

Business Name: ___________________________________________________________

National Animal Identification Number (NAID): ______________________________

Date: __________________________

SURVEILLANCE

1. Have samples from the animals in this premises been submitted to a diagnostic laboratory to run for a foreign animal disease (FAD)?

   Yes  No

   If YES, and the results were positive, then this premises is in an Infected Premises and you will be given specific guidance on next steps from officials managing the outbreak.

   If NO, and the results are negative, or if NO, please finish answering the questionnaire.

2. Are you looking at the animals in your premises as included in the Secure Food Supply Area (SFS) Reference Manual for Enhanced Biosecurity: Animals Raised Individually?

   Yes  No

   If YES, please review the SFS Reference Manual for Enhanced Biosecurity: Animals Raised Individually.
Training Materials for Employees are Available

www.securepork.org
Contingency Plans

• Inclement Weather
  – Sheltered C&D area
  – Off-site location
  – Alternate delivery options

• Stop Movement
  – Welfare concerns
  – Carcass disposal

• Manure Storage
  – If not permitted to move off-site for a period of time
Challenges from a Producer/Production System Perspective

The following likely sequelae for herds infected with FMD or CSF and not depopulated must be considered:

- Increased death loss
- Poor rate of gain, feed efficiency in recovered animals
- If there is no mandated depopulation, there will be no indemnity
- Increased treatment costs and other expenses associated with managing the outbreak
- A dramatic drop in price for pork due to loss of export markets and potential decrease in domestic consumption
- Flexibility in contract arrangements will be needed
  - Contract feeding
  - Delivery to packers
  - Feed purchases
Voluntary Implementation of the Components of the SPS Plan Before an Outbreak

• Reduces the likelihood that a herd will become infected with the FAD
• Enables movement of animals sooner after the start of the outbreak
• Contributes to the overall successful control of the outbreak
www.securepork.org