

# Secure Pork Supply Plan: Federal, State, Industry, and Academic Partnership

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## Today's Discussion

- Secure Pork Supply (SPS) Plan
  - How SPS fits into the disease response
  - The components
    - Biosecurity
    - Traceability
    - Surveillance (Disease Monitoring)



# Secure Food Supply Plans

Movement from Premises with No Evidence of Infection

- **Secure Milk Supply** (2009-2017)
  - Foot and Mouth Disease (FMD)
  - Movement of milk
- **Secure Pork Supply\*** (2010)
  - FMD, Classical Swine Fever, African Swine Fever
  - Movement of animals
- **Secure Beef Supply** (2014-2019)
  - FMD
  - Movement of animals



All funded by USDA APHIS

\*Funding also provided by the Pork Checkoff

# Foreign Animal Diseases in U.S.

**Response guidance for State, Federal Officials**

# USDA FAD Response Plan

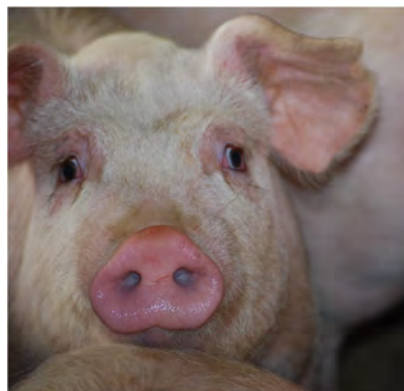
- Establish FAD Control Area
  - **Movement by permit, only, based on risk**
- Secure Food Supply Plans working on business continuity for affected, not *infected* premises



## Managed Movement

### Day 1 of an outbreak

- Stop movement
  - 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 them for several days to weeks



## Managed Movement

- Movement resumes
  - Enhanced Biosecurity
  - Surveillance
  - Movement Permits



## Movement Permits

- Permits may be required for all movements onto, off of premises during the outbreak
- Officials need to balance the risk:
  - Allowing live animal movement and possibly spreading the disease vs.
  - Welfare ramifications of not allowing animal movements



# Secure Pork Supply Plan

(Funded by USDA APHIS VS and Pork Checkoff)

Provide a business continuity plan for pork premises that are **affected** by movement controls but not **infected** with FMD, CSF, or ASF



# Secure Pork Supply Plan



- Guidance
- Collaboration
- Voluntary
- Funded by USDA and Pork Checkoff
- Resources

[www.securepork.org](http://www.securepork.org)



# Securepork.org

The screenshot shows the Secure Pork Supply website. At the top, there is a search bar and a navigation menu with links for SPS PLAN, PORK PRODUCERS, VETERINARIANS, PACKERS, REGULATORY OFFICIALS, and TRAINING MATERIALS. Below the navigation is a 'Get Your PIN' section with a 'LEARN MORE' button and an illustration of a pig and a map. The main content area is titled 'SPS Plan for Continuity of Business' and includes text about FMD, CSF, and ASF. A red circle highlights the 'Read the SPS Plan' section, which contains links to the SPS Plan, SPS Plan Summary, SPS Plan Handbook (English), and SPS Plan Handbook (Spanish). Below this, there is a video link for 'Watch SPS Plan Overview Video' and a list of links for 'Learn more about the diseases in the SPS Plan'.



# Biosecurity



# Protecting Your Pigs

UK farmers with good biosecurity procedures were **5 times** less likely to become infected

*Unpublished research:  
Carlisle Epidemiology Team, DEFRA  
UK 2001 Outbreak*



## Biosecurity

Four concepts emphasized

1. Biosecurity Manager
2. Written site-specific biosecurity plan
3. Defined Perimeter Buffer Area
4. Defined Line of Separation



# Biosecurity Manager

- Understand infectious diseases and production animal agriculture, familiar with facility
- Use the Self-Assessment Checklist and Information Manual for Enhanced Biosecurity
- Write site-specific biosecurity plan (with the assistance of the herd veterinarian)
- Responsible for employee training
- Ensure compliance on the site



# SPS Plan: Biosecurity



Self-Assessment Checklist for Enhanced Pork Production Biosecurity: Animals Raised Indoors

**Target Audience**

- Sites with several buildings or just one building that is used for raising animals
- All individuals, including but not limited to, non-family employees responsible for animal care
- Sites that have never been subjected to classical swine fever (CSF), and African swine fever (ASF)

**Introduction**

In the event of a foreign animal disease (FAD) outbreak in the country for the pork industry is critical to the agricultural and health and well-being. The goal of the Secure Pork Supply's (SPS) continuity plan for pork producers that raise pigs with an indoor operation, is to enable to Responsible Regulatory Officials (RROs) to appropriately, in an event FAD outbreak, decisions will be made by RROs based on the unique characteristics of each outbreak.

During an FAD outbreak, it is the producer's responsibility to keep their indoor, focusing on what they can control on their site. Biosecurity aspects and operations. Structural biosecurity is built into the physical construction. Operational biosecurity involves management practices designed to prevent a disease agent onto or off of the production site. An FAD will test the effectiveness of biosecurity practices because successful implementation of these practices is the behavior of individuals on the site.

The three foreign animal diseases of concern for the SPS Plan are 1) foot and mouth disease (FMD), and 2) classical swine fever (CSF), also known as swine fever, which are highly contagious and have a high impact on animal health and a risk of these diseases pose a food safety or public health concern.

Existing biosecurity plans for pork production sites may offer protection that is not sufficient to prevent FADs. The enhanced biosecurity plan document are based on the latest expert review for the three FADs of concern.

*Routine biosecurity is not enough  
Enhanced Biosecurity*

ENHANCED BIOSI  
FOR PORK PROD  
ANIMALS RAISED I

Enhanced Biosecurity  
Plan for FAD Prevention in \_\_\_\_\_

Self-Assessment Checklist for Enhanced Pork Production Biosecurity: Animals Raised Indoors (April 2017) and is developed using information from the SPS Plan for FAD Prevention in \_\_\_\_\_

**1. Biosecurity Manager and Written Plan**

The designated Biosecurity Manager for this site and their contact information follows:

NAME: \_\_\_\_\_

PHONE: \_\_\_\_\_

EMAIL: \_\_\_\_\_

In the event the Biosecurity Manager is away from the site, their designee's contact information is:

NAME: \_\_\_\_\_

PHONE: \_\_\_\_\_

EMAIL: \_\_\_\_\_

The Biosecurity Manager's contact information is posted \_\_\_\_\_

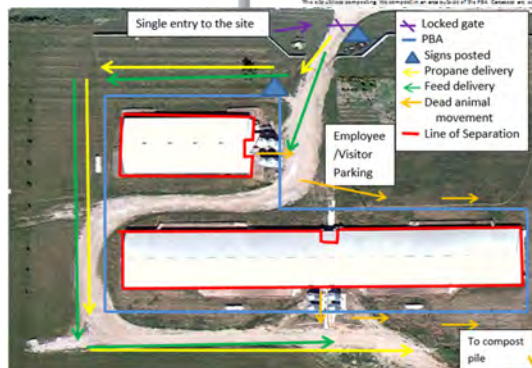
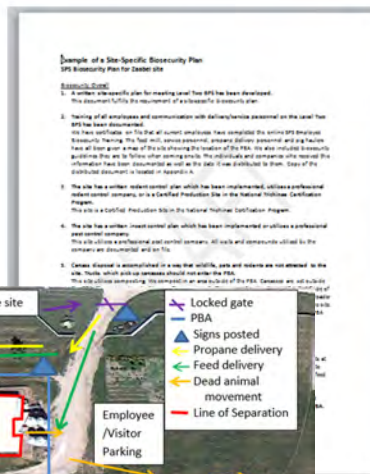




# SPS Plan: Biosecurity

Create a site-specific biosecurity plan

- Explain how site meets all biosecurity measures listed in checklist



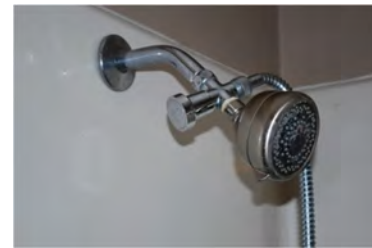
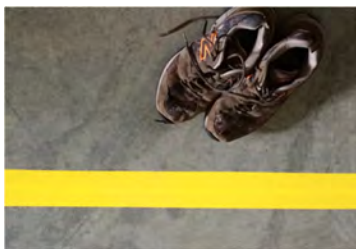
# Perimeter Buffer Area (PBA)

- Established around all animal buildings serving as an outer control boundary to minimize contamination near the buildings
- Enter the PBA only through a clearly marked and controlled PBA Access Point(s) following appropriate biosecurity measures

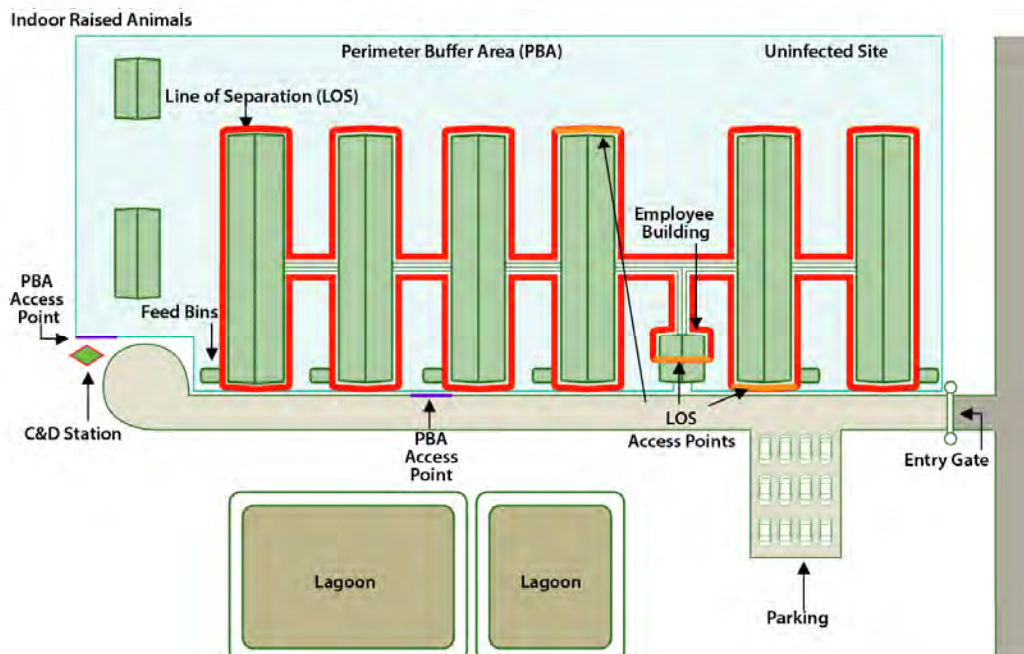


# Line of Separation (LOS)

- Walls of the building housing the pigs
- People and items only cross the LOS through a clearly marked and controlled LOS Access Point(s) following appropriate biosecurity measures



# Perimeter Buffer Area and Line of Separation



# Traceability



## SPS Plan: PIN

- ✓ Get PremIDs or PINs
  - Request from the North Carolina Department of Agriculture and Consumer Services-Veterinary Division
  - Include a valid 911 address, latitude and longitude
- ✓ Verify PIN is associated where the animals are located
- ✓ Associate the PIN with animal movements and diagnostic laboratory submissions



# SPS Plan: Record Keeping

- ✓ Record animal movements
- ✓ Maintain a visitor logbook
- ✓ Be prepared to track movements onto the site
- ✓ Electronic records preferred

Date	License Plate/State	Driver Name	Driver Phone	Vehicle Description	Reason for Entry	CSO (if required)	Entry Supervisor



# SPS Plan: Record Keeping

The screenshot shows the SPS website interface. At the top is the SPS logo and a navigation bar with categories: SPS PLAN, PORK PRODUCERS (circled in red), VETERINARIANS, PACKERS, REGULATORY OFFICIALS, and TRAINING MATERIALS. Below this is a sidebar menu with categories like Steps to Move, Premises ID Number, Biosecurity, Disease Monitoring, Vaccination, Movement Records (circled in red), Permit Guidance, Forms and SOPs, and Signs and Posters. The main content area is titled 'Movement Records' and includes text about FMD, CSF, and ASF virus spread, along with bullet points. A 'Movement Logs' section lists links for Animal Movement Log, Visitor Movement Log, and Vehicle and Equipment Movement Log (highlighted with a red arrow). A large blue arrow points from the 'Movement Logs' section to a 'Vehicle and Equipment Entry Log' form, which is a table identical to the one shown in the first slide. The SPS logo is also present in the bottom right corner.



# Surveillance (Disease Monitoring)



# Secure Pork Supply Plan

**Foot and Mouth Disease**  
Also referred to as "Hoof and Mouth Disease"

- Most contagious virus of cloven hoofed livestock (cows, pigs, goats, sheep)
- Does NOT affect public health or food safety
- Mainly spread by people to pig
- Causes blisters on the feet and the snout
- Other signs may include fever, drool and pain of the feet
- Preventive measures include:
  - Clean boots and farm vehicles
  - Animals may be isolated 2-4 days before appearing signs
  - Highly contagious
  - Virus is shed in saliva, snot, tears, milk, semen, urine and manure
  - Can be spread directly between animals
  - OR spread indirectly via clothing, footwear, vehicles, equipment and wildlife

**Classical Swine Fever**  
Also referred to as "Hog cholera"

- Highly contagious virus of pigs (domestic and wild)
- Does NOT affect public health or food safety
- Mainly spread by people to pig
- Causes mild and early signs: skin discoloration, fever, and conjunctivitis followed by diarrhea
- Other signs may include feckling, watery eyes, and tingling of the feet
- Younger pigs often have a high mortality (death rate)
- Animals may be isolated 2-3 days before showing signs
- Highly contagious
- Virus is shed in saliva, nasal discharge, semen, urine and manure
- Can be spread directly between animals OR spread indirectly via clothing, footwear, vehicles, equipment, and wildlife
- CSP virus can also be spread to other pigs through contact with their own respiratory secretions

**African Swine Fever**

- Highly contagious virus of pigs (domestic and wild)
- Does NOT affect public health or food safety
- Mainly spread by people to pig
- Causes fever, skin discoloration, diarrhea, and death
- Other signs may include piglet, lameness, and tingling of the feet
- Stabbed needles or abortions may be the first sign of infection in a herd
- Animals may be isolated 3-7 days before showing signs
- Highly contagious
- Virus is shed in saliva, tears, milk, semen, urine and manure
- Can be spread directly between animals OR spread indirectly via clothing, footwear, vehicles, equipment, and wildlife

**NOT a public health or food safety concern**

**Where is it?**

- Foot and mouth disease is found in more than 2/3 of the world!
- Parts of North America, Asia, Africa, and the Middle East
- NOT in United States, Canada, Mexico, or Central America

**How will foot and mouth disease affect pork producers if it enters the U.S.?**

- Movement is not off limits in a regulatory Control Area could be stopped by state and federal disease spread
- Upper markets close and price drop
- Many may avoid the farm because infected, the whole herd is likely to become sick

**How can the Secure Pork Supply (SPS) Plan help protect your herd?**

- It recommends biosecurity standards that pork producers can put in place to help protect their pigs
- It includes step producers can take to show that their pigs can be moved without spreading disease
- It provides an opportunity for pork producers to keep their business running if their pigs get sick

**Where is it?**

- Classical swine fever is found in more than 2/3 of the world!
- Parts of Central and South America, Asia, Africa, and the Middle East
- CSP is still present among wild boars in some regions of western and central Europe
- NOT in United States or Canada

**How will Classical Swine Fever affect pork producers if it enters the U.S.?**

- Movement in and out of State in a regulatory Control Area could be stopped
- Disease spread
- Export markets close and price drop
- When one animal on the farm becomes infected, the whole herd is likely to become sick

**How can the Secure Pork Supply (SPS) Plan help protect your herd?**

- It recommends biosecurity standards that pork producers can put in place
- It includes step producers can take to show that their pigs can be moved
- It provides an opportunity for pork producers to keep their business running

**Where is it?**

- African swine fever is found in Africa and countries in Europe, Asia, and the Middle East
- NOT in United States, Canada, Mexico, or Central America

**How will African swine fever affect pork producers if it enters the U.S.?**

- Movement in and out of State in a regulatory Control Area could be stopped by state and federal officials to try and stop disease spread
- Export markets close and price drop
- Many may avoid the farm because infected, the whole herd is likely to become sick

**How can the Secure Pork Supply (SPS) Plan help protect your herd?**

- It recommends biosecurity standards that pork producers can put in place to help protect their pigs
- It includes step producers can take to show that their pigs can be moved without spreading disease
- It provides an opportunity for pork producers to keep their business running if their pigs become infected

www.securepork.org

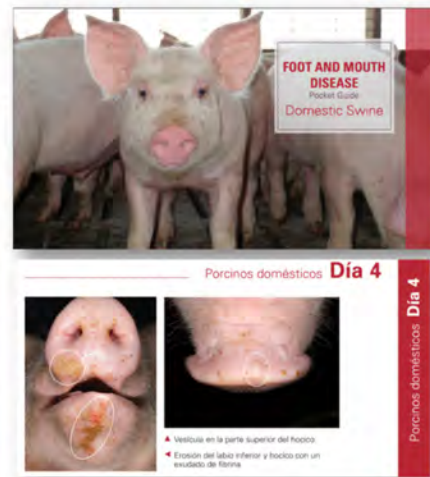
# SPS Plan: Surveillance

## Swine Health Monitors

- ✓ Caretakers trained recognize abnormal production parameters or clinical signs suggestive of FMD, CSF, and ASF
- ✓ Look for these parameters and clinical signs on a daily basis



# FMD, CSF, and ASF Lesion Posters

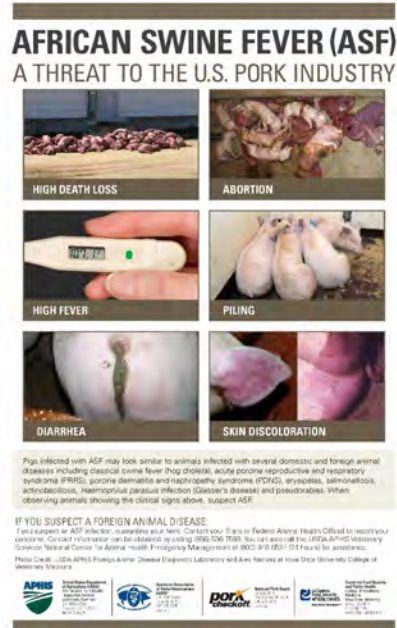
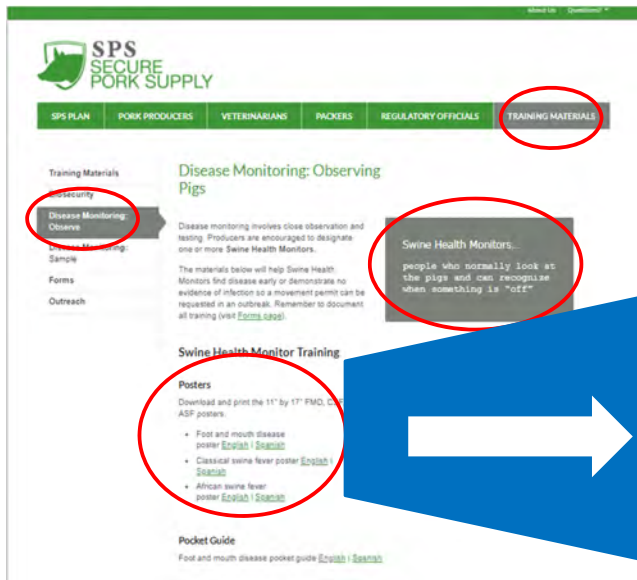


[www.securepork.org](http://www.securepork.org)

Available in English and Spanish



# SPS Plan: Surveillance



# SPS Plan: Surveillance

Work with veterinarian to determine if caretakers are prepared to collect their own samples, if permitted



www.securepork.org



# Vaccine Availability

- FMD and CSF
  - Vaccine will not be immediately available, and will be in short supply when available
- ASF
  - No vaccine



Ramirez

Vaccination will not be a viable option for initial rapid control of these FADs in a large FAD outbreak



# AgView



AgView is a suite of customizable data integration and analysis products designed to enhance situational awareness.

- Integrates data from authoritative data sources into a single, easy-to-use, real-time common operating picture.
- Supports the entire emergency cycle: planning, preparedness, mitigation, response and recovery.
- Supports sector-specific business continuity planning.
- Empowers near real-time collection, aggregation and analysis of data.

AgView Health Reports mobile applications allow for the collection of animal health and production-level data on healthy and sick animals directly from the field with customized applications for different end users, including veterinary practitioners, producers, diagnostic laboratories, wildlife biologists and other data providers. Mobile applications have been developed for Swine, Mixed Animal (cattle, goats, sheep, horses) and Wildlife and are being developed for Feedlot (beef cattle), Dairy and Poultry industries. These applications allow users to record clinical and syndromic data while on-site at farms, ranches, feedlots and livestock markets and request and receive laboratory test results. These apps also provide valuable information to practitioners concerning healthy herd management and syndromic reports in their region. Users can access, manage, and query reports and access analytical tools directly on their devices. Data from AgView Health Reports are brought into the AgView HealthNet Analyst Workstation, where information is aggregated and integrated into an interactive, easy-to-use display. Once anonymized, data may be shared according to established data sharing protocols, ultimately allowing epidemiologists at other locations to compile and analyze data in real time. Routine updates on disease trends in the users' area can help manage diseases more effectively.

#### AgView Support

support@agview.com  
1-800-753-6888  
Hours: Monday-Friday  
8AM-5PM, Central Time





# www.securepork.org



# Foot and mouth disease, African swine fever, and Classical swine fever

*Foreign Animal Diseases (FADs) addressed  
in the Secure Pork Supply Plan*



## Today's Discussion

- Overview of Foreign Animal Diseases (FADs) in the SPS Plan
  - Foot and mouth disease (FMD)
  - African swine fever (ASF)
  - Classical swine fever (CSF)
- Transmission of these diseases
- Disease monitoring (Surveillance) concerns



# Foot and Mouth Disease



## Foot and Mouth Disease (FMD)

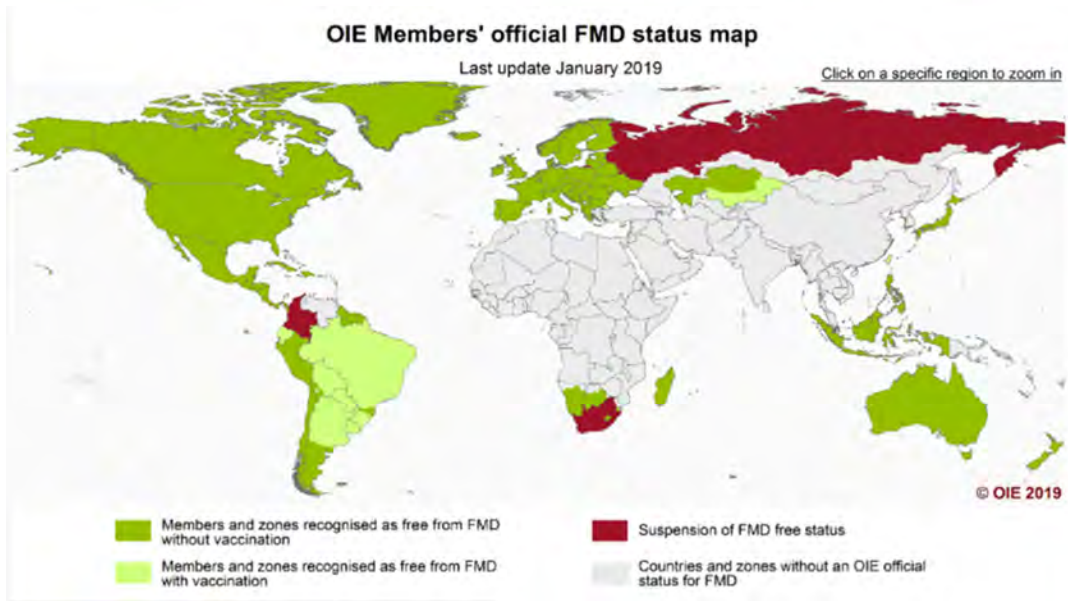
- Affects animals with cloven-hooves
- Most contagious livestock disease
- No treatment



NOT a public health or food safety concern



# FMD Around the World



Source: OIE Member Countries' official FMD status map

# FMD Around the World

UK '01, '07



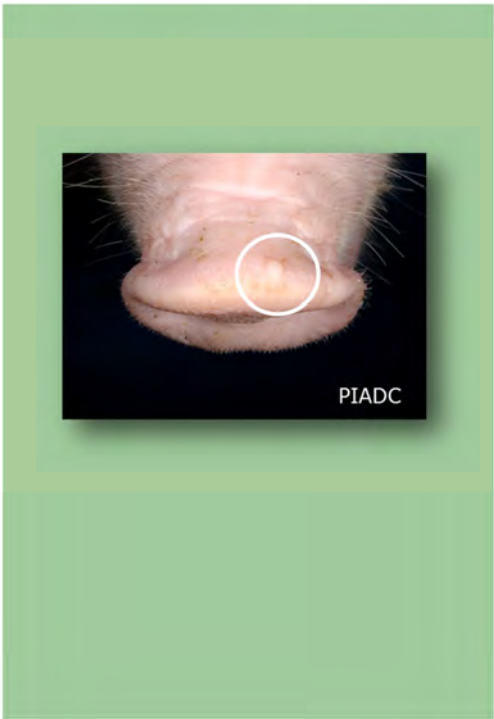
Korea '10



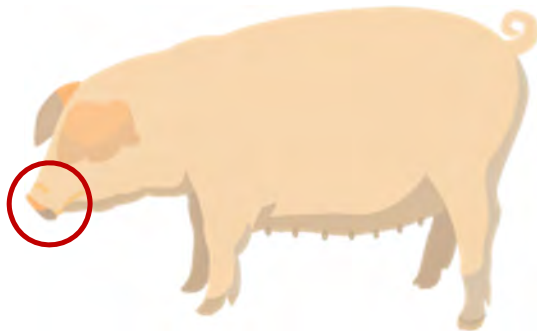
Japan '10



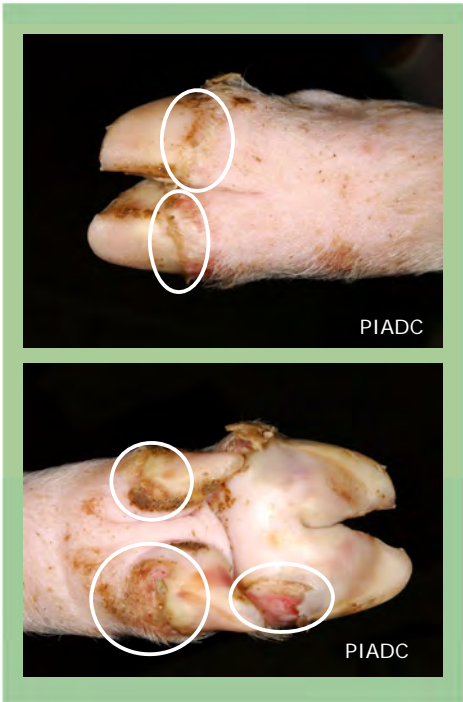
# Signs of Foot and Mouth Disease



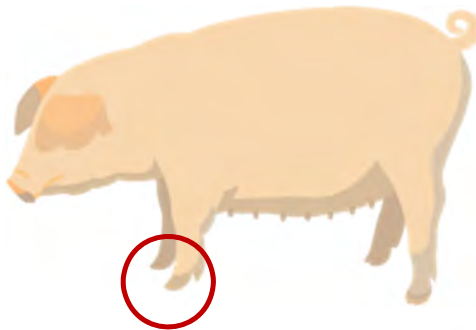
## Snout



# Signs of Foot and Mouth Disease



## Feet



# African Swine Fever

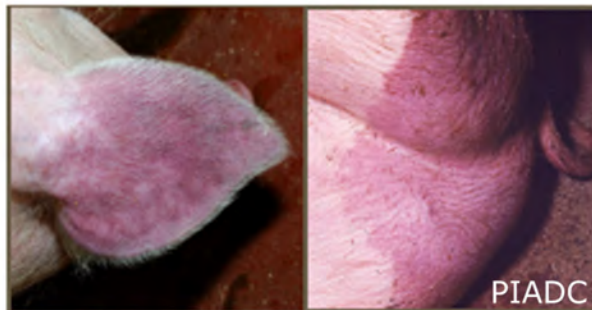


## African Swine Fever (ASF)

- Affects domestic and feral pigs
- No treatment or vaccine



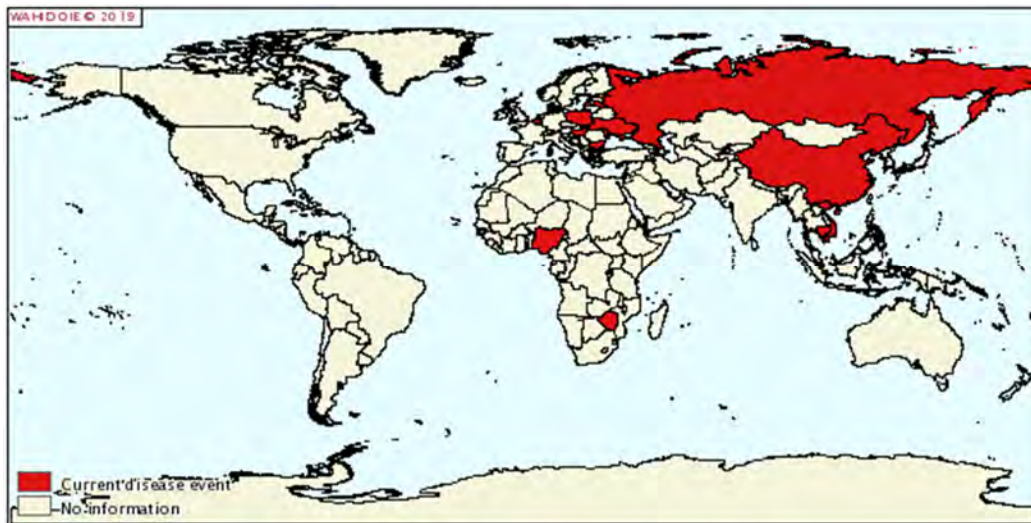
Pigs



NOT a public health or food safety concern



# ASF Around the World



Source: OIE Member Countries' official ASF status map

# Could ASF Occur in the U.S.?



Meat

People



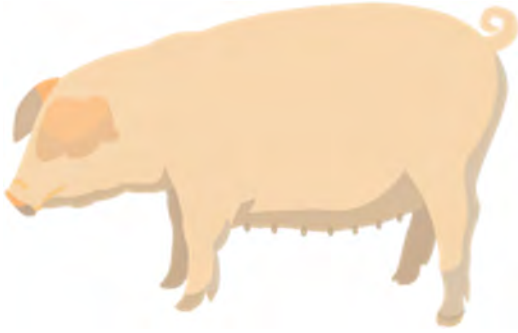
Production Inputs



# Signs of African Swine Fever



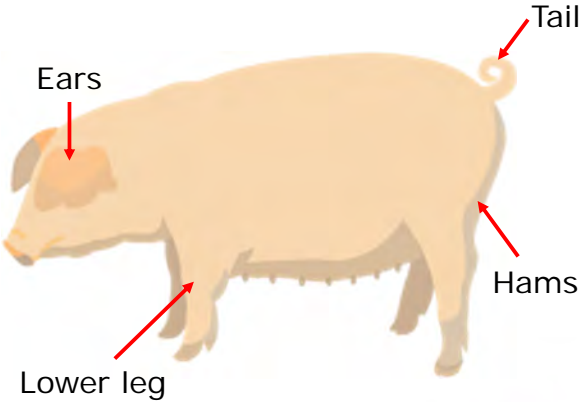
## Overall



# Signs of African Swine Fever

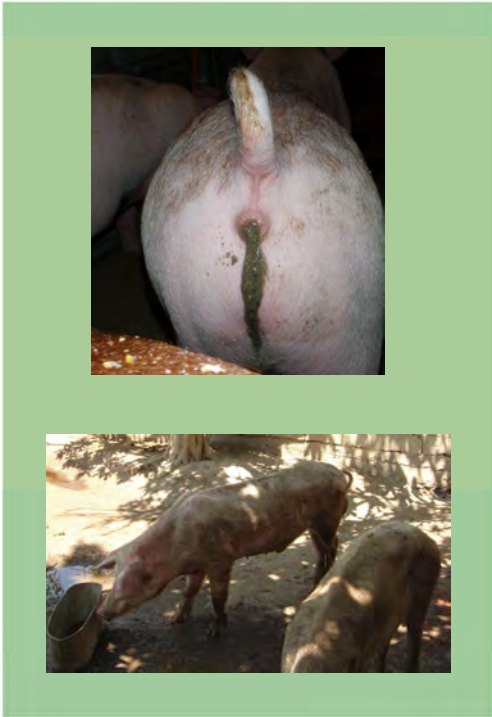


## Skin

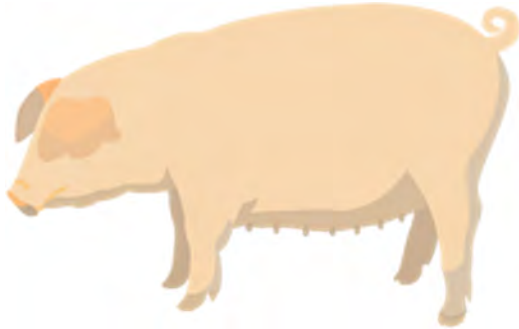




# Signs of African Swine Fever



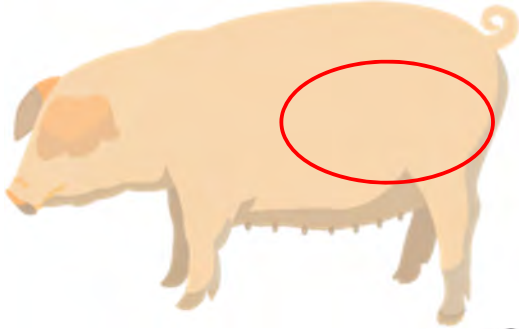
Digestive Tract



# Signs of African Swine Fever



Reproductive



# Signs of African Swine Fever

Sudden Death



# Signs of African Swine Fever



Photo credit: Prof. Zygmunt Pejsak

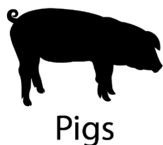


# Classical Swine Fever



## Classical Swine Fever (CSF)

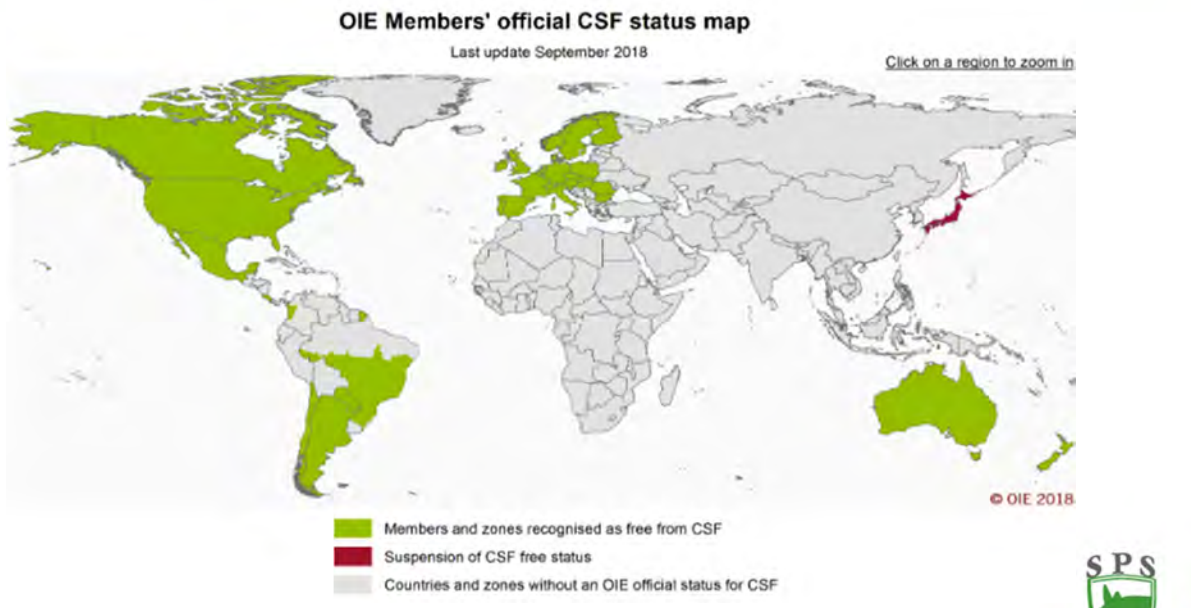
- Affects domestic and feral pigs
- No treatment



NOT a public health or food safety concern



# CSF Around the World



Source: OIE Member Countries' official CSF status map



# Could CSF Occur in the U.S.?



Meat

People



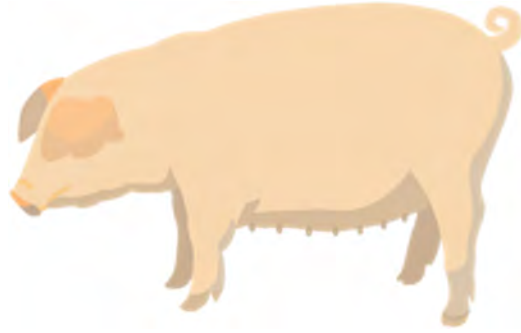
Production Inputs



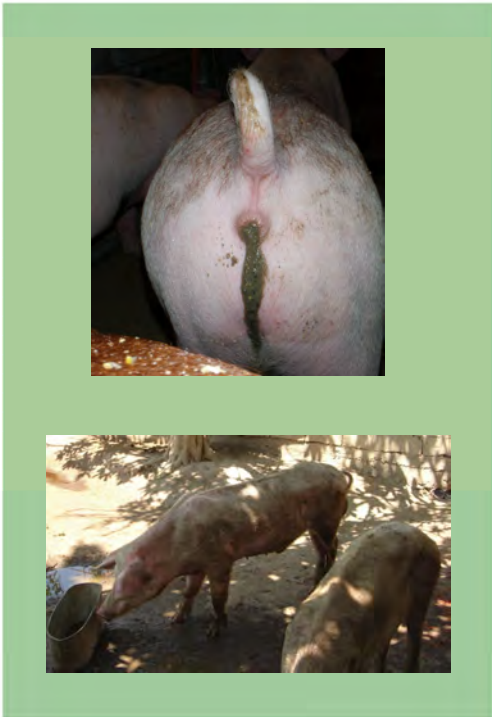
# Signs of Classical Swine Fever



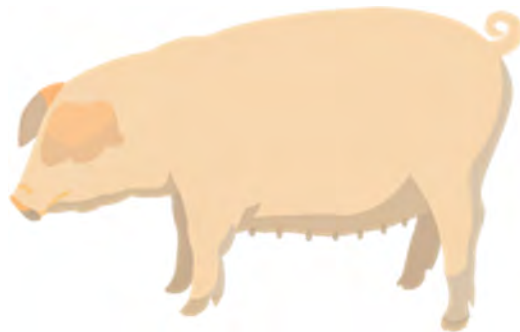
Overall



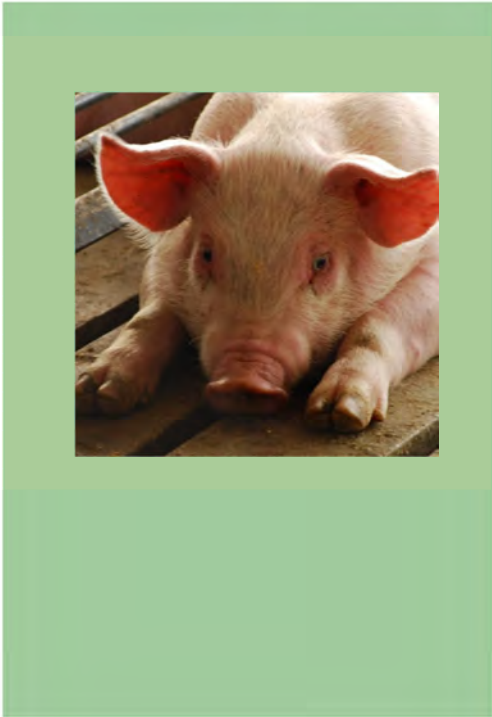
# Signs of Classical Swine Fever



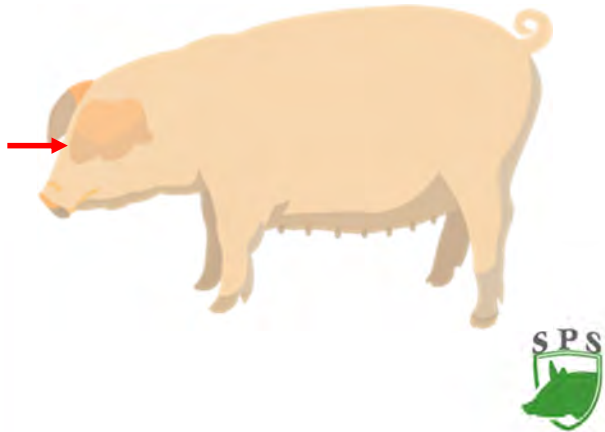
Digestive Tract



# Signs of Classical Swine Fever



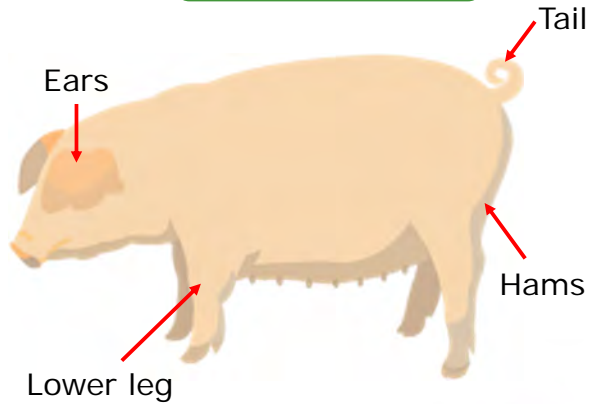
## Eyes



# Signs of Classical Swine Fever



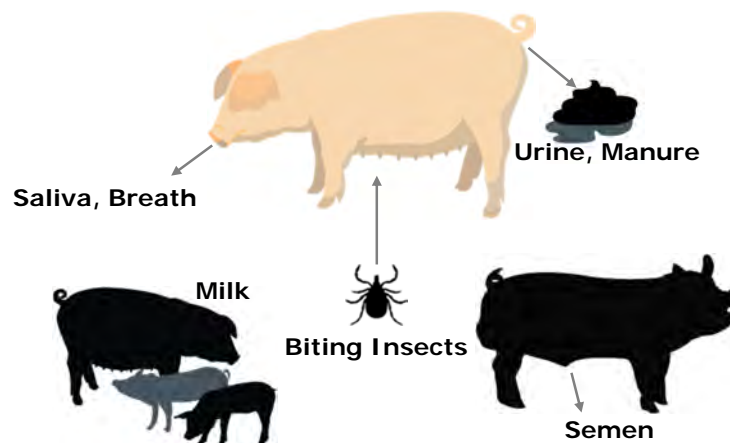
## Skin



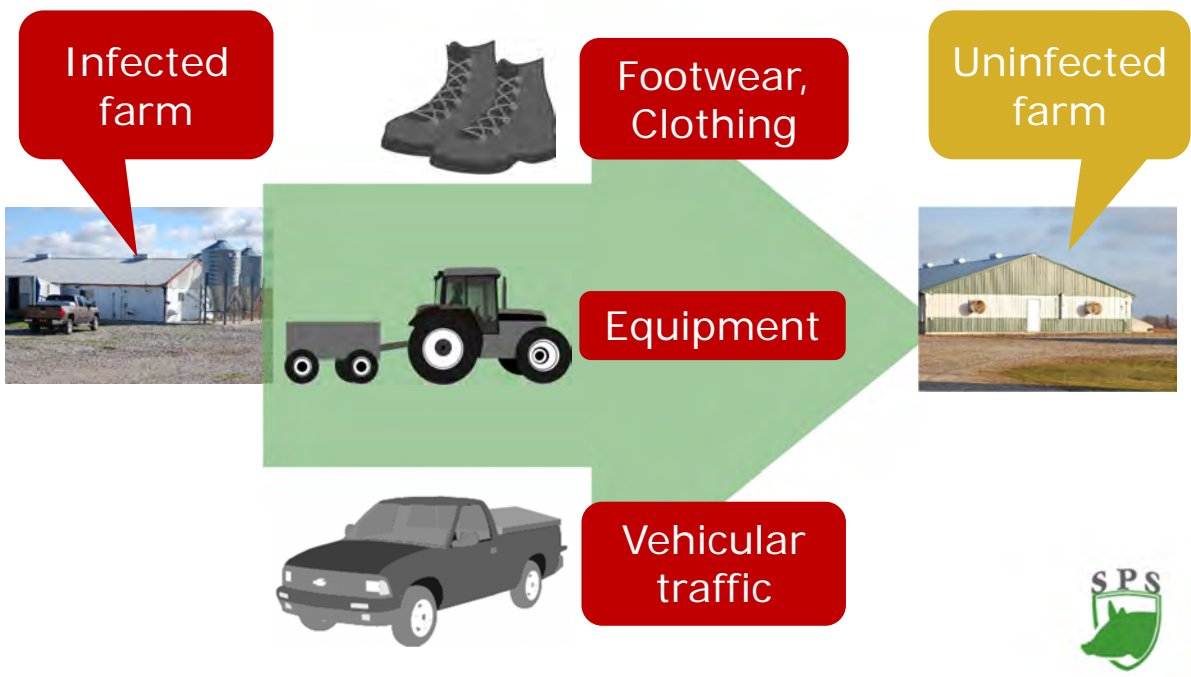
# FMD, ASF, and CSF Transmission



## Spread of FMD, ASF, or CSF Virus



# FADs can be Carried on Equipment



# ASF Transmission Concerns

Uncooked/undercooked garbage or plate waste





# ASF Survival Concerns



Slide credit: Dr. Scott Dee

ASFV survival in batch 4 samples (30 DPI).

Ingredient	SVA (FMDV)	ASFV	PSV (SVDV)	PEDV	FCV (VESV)	PCV2	BHV-1 (PRV)	PRRSV 174	BVDV (CSFV)	VSV	CDV (NiV)	IAV-S
Soybean meal-Conventional	(+)	(+)	(+)	(+)	(+)	(-)	(+)	(+)	(-)	(-)	(-)	(-)
Soybean meal-Organic	(+)	(+)	(+)	(+)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)
Soy oil cake	(+)	(+)	(+)	NT	(-)	(-)	(+)	(-)	(-)	(-)	(-)	(-)
DDGS	(+)	(-)	(-)	NT	(-)	(-)	(-)	(+)	(-)	(-)	(-)	(-)
Lysine	(+)	(-)	(+)	(+)	(+)	(+)	(-)	(-)	(-)	(-)	(-)	(-)
Choline	(+)	(+)	(-)	(+)	(-)	(+)	(-)	(-)	(-)	(-)	(-)	(-)
Vitamin D	(+)	(-)	(+)	(+)	(-)	(+)	(-)	(-)	(-)	(-)	(-)	(-)
Moist cat food	(+)	(+)	(+)	NT	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)
Moist dog food	(+)	(+)	(+)	NT	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)
Dry dog food	(+)	(+)	(+)	NT	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)
Pork sausage casings	(+)	(+)	(+)	NT	(+)	(-)	(-)	(-)	(-)	(-)	(-)	(-)
Complete feed (+ control)	(+)	(+)	(+)	NT	(+)	(+)	(-)	(-)	(-)	(-)	(-)	(-)
Complete feed (- control)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)
Stock virus control	(-)	(+)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)

# Disease Monitoring (Surveillance) Concerns



## Shedding of FMD virus



Normal appearing animals can spread the disease

Shed the virus 2 to 4 days *before* clinical signs appear



Biosecurity is critical



# ASF and CSF may resemble other swine diseases

- Porcine dermatitis and nephropathy syndrome (PDNS)
- Postweaning multisystemic wasting syndrome (PMWS)
- Porcine reproductive and respiratory syndrome (PRRS)
- Aujeszky's Disease (PRV)
- Erysipelas
- Salmonellosis
- Pasteurellosis
- Actinobacillosis
- *Haemophilus suis*



# Disease Monitoring for FADs

The composite image includes a photograph of a pig's head in the top left, a 'POAPLUS Emergency Action Plan' form in the center, and a photograph of a pig's liver with characteristic lesions in the bottom left. The form is titled 'Emergency Action Plan' and includes fields for 'Site Information', 'Contacts', 'Disease Control', and 'Humanity Units'.

Emergency Action Plan

Diagnostic Testing



# FMD, ASF, CSF Resources

**SPS SECURE PORK SUPPLY**

SPS PLAN | PORK PRODUCERS | VETERINARIANS | PACKERS | REGULATORY OFFICIALS | **TRAINING MATERIALS**

**Training Materials**

**Disease Monitoring: Observe**

**Disease Monitoring: Observe**

**Disease Monitoring:**

**Forms**

**Outreach**

**Disease Monitoring: Observing Pigs**

Disease monitoring involves close observation and testing. Producers are encouraged to designate one or more Swine Health Monitors.

The materials below will help Swine Health Monitors find disease early or demonstrate no evidence of infection so a movement permit can be requested in an outbreak. Remember to document all training ([Link to Form](#)).

**Swine Health Monitor Training**

**Foot and mouth disease videos**

- FMD Video (English) - [Watch \(6:51 mins\)](#) | [Download \(7mb\)](#)
- FMD Video (Spanish) - [Watch \(6:11 mins\)](#) | [Download \(42mb\)](#)

**African swine fever videos**

- ASF Video (English) - [Watch \(6:22 mins\)](#) | [Download \(6mb\)](#)
- ASF Video (Spanish) - [Watch \(9:03 mins\)](#) | [Download \(32mb\)](#)

**Posters**

Download and print the 11" by 17" FMD, CSF, and ASF posters.

- Foot and mouth disease poster [English](#) | [Spanish](#)
- Classical swine fever poster [English](#) | [Spanish](#)
- African swine fever poster [English](#) | [Spanish](#)

**Order Free 11" by 17" Laminated FMD, CSF, and ASF Posters**

Go to the [Pork Store](#) and enter item #

- English #04892
- Spanish #04046

**Pocket Guide**

Foot and mouth disease pocket guide [English](#) | [Spanish](#)

**Swine Health Monitors...**  
people who normally look at the pigs and can recognize when something is "off"



# FMD, ASF, CSF Resources

**SPS SECURE PORK SUPPLY**

SPS PLAN | PORK PRODUCERS | VETERINARIANS | PACKERS | **REGULATORY OFFICIALS** | TRAINING MATERIALS

**Regulatory Officials**

**Bioresecurity**

**Surveillance**

**Permit Guidance**

**Risk Assessment**

**State/Regional Projects**

**Disease Information**

**Vaccination**

**Disease Information**

Foot and mouth disease, classical swine fever, and African swine fever are the diseases included in the Secure Pork Supply Plan. Review the information below to learn more about resources available.

- Foot and mouth disease (FMD)
- Classical swine fever (CSF)
- African swine fever (ASF)**

**Regulatory Officials**

**Bioresecurity**

**Surveillance**

**Permit Guidance**

**Risk Assessment**

**State/Regional Projects**

**Disease Information**

**Vaccination**

**Disease Information**

Foot and mouth disease, classical swine fever, and African swine fever are the diseases included in the Secure Pork Supply Plan. Review the information below to learn more about these diseases and additional resources available.

- Foot and mouth disease (FMD)
- Classical swine fever (CSF)
- African swine fever (ASF)

**ASF Quick Information**

- Handout (1 page) [English](#) | [Spanish](#)
- Factsheet (5 pages) [English](#) | [Spanish](#)
- Video (English) [Watch \(6:22 mins\)](#) | [Download \(6mb\)](#)
- Video (Spanish) [Watch \(9:03 mins\)](#) | [Download \(32mb\)](#)

**USDA APHIS Resources**

- ASF Disease Response Strategy
- FAD 279eP [available](#) (Foreign Animal Disease Preparedness and Response Plan)
  - FAD 279eP: Swine Industry Manual provides a broad overview of U.S. swine production methods and the procedures that may be used in the event of a highly contagious FAD outbreak.

**Center for Food Security and Public Health (CFSPH), Iowa State University Resources**

- CFSPH [ASF available](#) has ASF fact sheets, disease images, a PowerPoint presentation, vaccination guidelines, and many other ASF resources.
  - Guidelines for Classification of Events and Types of an ASF Outbreak and Response is designed to aid rapid decision making to facilitate response planning and development of business continuity plans in the event of an ASF outbreak in the United States or North America.
- African swine fever worksheet [English](#) | [Spanish](#)

**World Organisation for Animal Health (OIE) Resources**

- OIE [Terrestrial Animal Health Code ASF](#) provides an overview of ASF and highlights appropriate tools available.

Funding provided by USDA APHIS and the Pork Checkoff.  
The Secure Pork Supply Plan involved collaboration between the swine industry, state and federal government officials, Iowa State University and the University of Minnesota.



# Secure Pork Supply Plan: Biosecurity Overview

Pam Zaabel, DVM



## Today's Discussion

- Enhanced Biosecurity
  - Review main SPS biosecurity concepts
  - Discuss creating a site map and writing site-specific biosecurity plans
  - Cover inputs and outputs to consider when writing the plans
  - Review employee training
  - Introduce assignment for in-person workshop



# Main Biosecurity Concepts



## Protecting Your Pigs

UK farmers with good biosecurity procedures were **5 times** less likely to become infected

*Unpublished research:  
Carlisle Epidemiology Team, DEFRA  
UK 2001 Outbreak*



## Biosecurity

- Producers responsibility
  - Protect their herds by keeping the disease off the farm
- Regulatory Officials responsibility
  - Protect the US herd by keeping the disease from spreading



## Enhanced Biosecurity

Four concepts emphasized

- Biosecurity Manager
- Written site-specific biosecurity plan
- Defined Perimeter Buffer Area (PBA)
- Defined Line of Separation (LOS)





# Biosecurity Manager

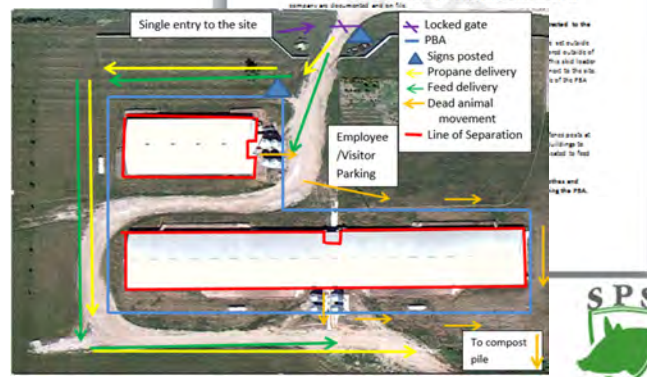
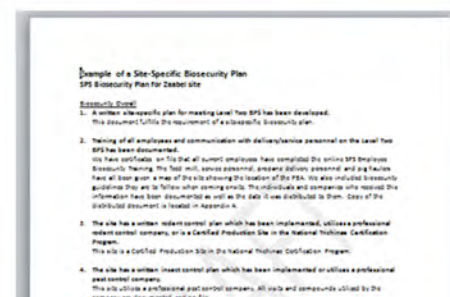
- Understand infectious diseases and production animal agriculture, familiar with facility
- Use the Self-Assessment Checklist and Info Manual for Enhanced Biosecurity
- Write site-specific biosecurity plan
  - With assistance of herd veterinarian
- Responsible for employee training
- Ensure compliance on the site



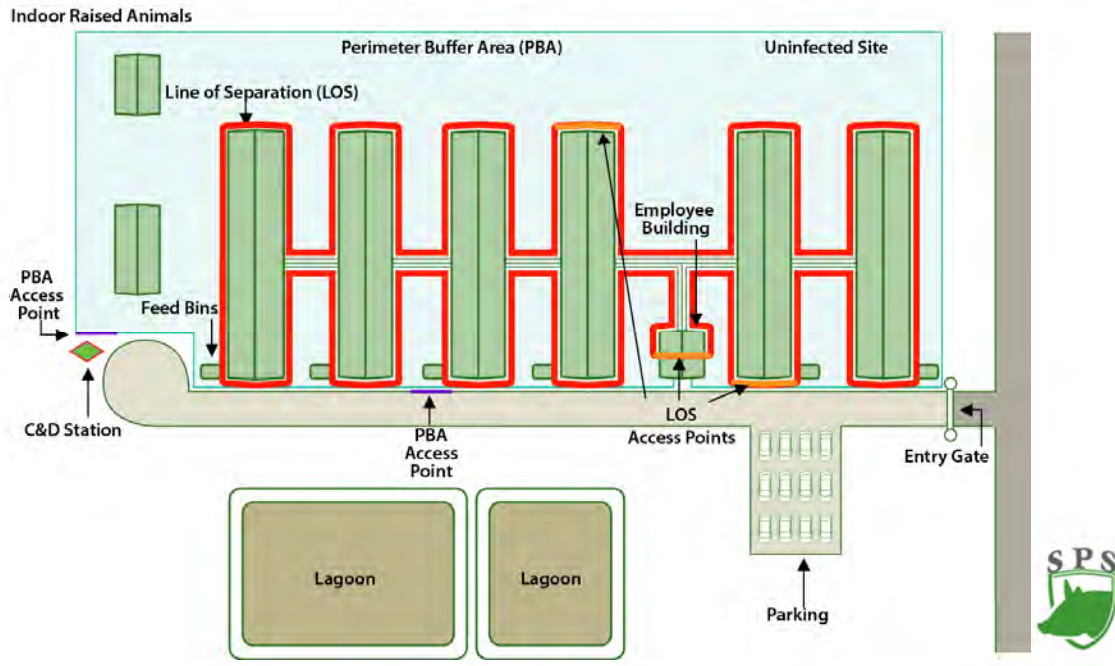
## SPS Plan: Biosecurity

### Create a Site-Specific Enhanced Biosecurity Plan

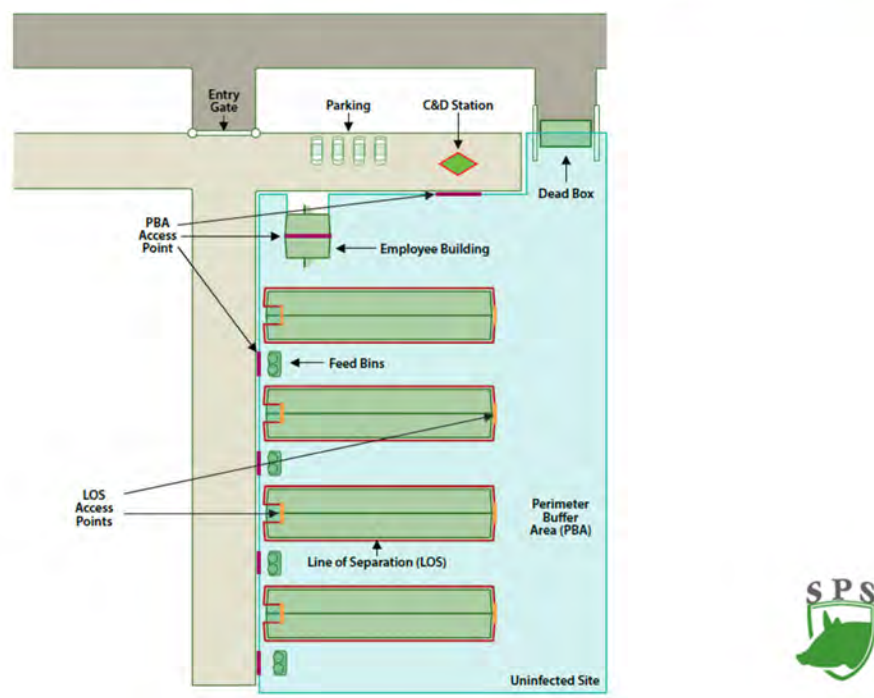
- Explain how site meets all biosecurity measures listed in checklist

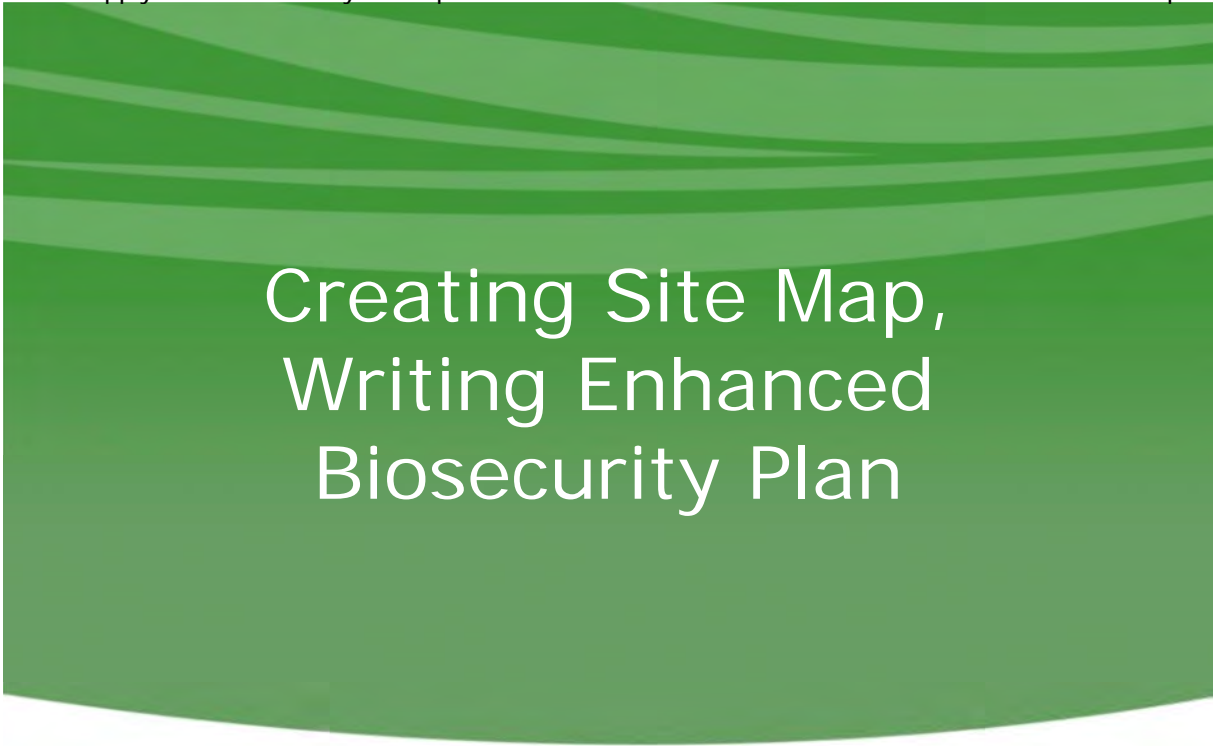


# SPS Plan: Perimeter Buffer Area and Line of Separation



# Line of Separation (LOS) Perimeter Buffer Area (PBA)





# Creating Site Map, Writing Enhanced Biosecurity Plan



## SPS Plan: Biosecurity



### Self-Assessment Checklist for Enhanced Pork Production Biosecurity: Animals Raised Indoors

#### Target Audience

- This document and corresponding information apply to:
  - Sites with several buildings or just one building. This includes sites with other premises.
  - All individuals, including but not limited to, non-family employees responsible for animal care.
  - Sites that have never been affected with classical swine fever (CSF), and African swine fever (ASF).

#### Introduction

In the event of a foreign animal disease (FAD) outbreak in the country for the pork industry is critical to the agricultural and health and well-being. The goal of the Secure Pork Supply's (SPS) continuity plan for pork producers that have pigs with an indoor production system is to ensure that the pork producer has the necessary resources that are available to Responsible Regulatory Officials (RROs) in the event of an FAD outbreak. Decisions will be made by RROs based on the unique characteristics of each outbreak.

During an FAD outbreak, it is the producer's responsibility to keep their individual, focusing on what they can control on their site. Biosecurity approaches and operational. Structural biosecurity is built into the physical construction; Operational biosecurity involves management practices designed to prevent a disease agent onto or off of the production site. An FAD will test the effectiveness of biosecurity practices because successful implementation of these practices is the behavior of individuals on the site.

The three foreign animal diseases of concern for the SPS Plan are 1) foot and mouth disease (FMD), and 2) classical swine fever (CSF), also known as swine fever. These diseases are highly contagious and have a high impact on animal health and a risk of these diseases pose a food safety or public health concern.

Existing biosecurity plans for pork production sites may offer protection that is not sufficient to prevent FADs. The enhanced biosecurity plan document are based on the known exposure routes for the three FADs of concern.

SPS Plan: Enhanced Biosecurity Checklist: Animals Raised Indoors



*Routine biosecurity is not enough  
Enhanced Biosecurity*

### ENHANCED BIOSI FOR PORK PROD ANIMALS RAISED I

### Enhanced Biosecurity Plan for FAD Prevention in \_\_\_\_\_

Self-Assessment Checklist for Enhanced Pork Production Biosecurity: Animals Raised Indoors

1. Biosecurity Manager and Written Plan

The designated Biosecurity Manager for this site and their contact information follows:

NAME: \_\_\_\_\_

PHONE: \_\_\_\_\_

EMAIL: \_\_\_\_\_

In the event the Biosecurity Manager is away from the site, their designee's contact information is:

NAME: \_\_\_\_\_

PHONE: \_\_\_\_\_

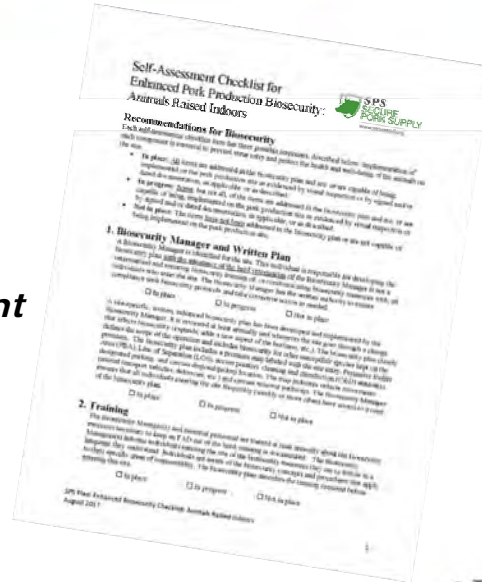
EMAIL: \_\_\_\_\_

The Biosecurity Manager's contact information is posted \_\_\_\_\_



# Enhanced 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



# SPS Plan: Biosecurity



# Enhanced Biosecurity Templates

**Enhanced Biosecurity Plan for FAD Prevention in \_\_\_\_\_**

Date: \_\_\_\_\_

This Biosecurity Plan is based off of the Secure Pork Supply (SPS) Self-Assessment Checklist for Enhanced Pork Production Biosecurity: Animals Raised Indors, (August 2017) and was developed using guidance from the SPS Information Manual for Enhanced Biosecurity: Animals Raised Indors. All documents are available at [www.securepork.org](http://www.securepork.org).

**Scope of Biosecurity Plan**

- National Premises Identification Number (NPI) or PDI: \_\_\_\_\_ (request from the office of the State Animal Health Official)
- Premises Address: \_\_\_\_\_
- Premises GPS Coordinates: \_\_\_\_\_
- Animals\* on primary premises: \_\_\_\_\_
- Other business operations on premises? \_\_\_\_\_ If yes, what? \_\_\_\_\_
- Secondary premises\*\* locations (PDI, 911 address, or GPS coordinates): \_\_\_\_\_
  - Will be provided to Responsible Regulatory Officials if the premises is located in an FAD Control Area
  - \*Work with your State Animal Health Official to determine if separate PDIs are needed for all of your associated premises.

\*Animals that are susceptible to FAD include cattle, pigs, sheep, goats, and elk. For biosecurity guidance for dairy cattle and beef cattle, see [www.securepork.org](http://www.securepork.org) and [www.securepork.org](http://www.securepork.org). \*\*Work with your State Animal Health Official to determine if separate PDIs are needed for all of your associated premises. When a premises becomes infected, all premises with the same PDI number will be considered to be infected.

**1. Biosecurity Manager and Written Plan**

The designated Biosecurity Manager for this site and their contact information follow:

NAME: \_\_\_\_\_  
PHONE: \_\_\_\_\_  
EMAIL: \_\_\_\_\_

In the event the Biosecurity Manager is away from the site, their designee's contact information is:

NAME: \_\_\_\_\_  
PHONE: \_\_\_\_\_  
EMAIL: \_\_\_\_\_

The Biosecurity Manager's contact information is posted: \_\_\_\_\_

Enhanced Biosecurity Plan

- For sites that do not currently have a biosecurity plan
- Available as type-in or write-in formats
- Guide producers through writing an enhanced biosecurity plan



# SPS Plan: Biosecurity

The screenshot shows the SPS website interface. The top navigation bar includes 'SPS PLAN', 'PORK PRODUCERS', 'VETERINARIANS', 'PACKERS', 'REGULATORY OFFICIALS', and 'TRAINING MATERIALS'. The 'PORK PRODUCERS' section is active. On the left sidebar, the 'Biosecurity' link is highlighted with a red circle. A red arrow points from this link to a blue arrow pointing towards the right, which then points to the biosecurity plan form.

**Enhanced Biosecurity Plan for FAD Prevention in \_\_\_\_\_**

Date: \_\_\_\_\_

This Biosecurity Plan is based off of the Secure Pork Supply (SPS) Self-Assessment Checklist for Enhanced Pork Production Biosecurity: Animals Raised Indors, (August 2017) and was developed using guidance from the SPS Information Manual for Enhanced Biosecurity: Animals Raised Indors. All documents are available at [www.securepork.org](http://www.securepork.org).

**Scope of Biosecurity Plan**

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  - Will be provided to Responsible Regulatory Officials if the premises is located in an FAD Control Area
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EMAIL: \_\_\_\_\_

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NAME: \_\_\_\_\_  
PHONE: \_\_\_\_\_  
EMAIL: \_\_\_\_\_

The Biosecurity Manager's contact information is posted: \_\_\_\_\_

Enhanced Biosecurity Plan



# Information Manual

- Additional resource
- In-depth approaches



INFORMATION MANUAL FOR ENHANCED BIOSECURITY FOR PORK PRODUCTION: ANIMALS RAISED INDOORS



# SPS Plan: Biosecurity

The screenshot shows the SPS website navigation menu with 'Biosecurity' highlighted. The main content area is titled 'Biosecurity Resources for Producers' and includes sections for 'Write a site-specific enhanced biosecurity plan', 'Already have a biosecurity plan?', and 'Are caretakers trained in biosecurity?'. A grid of resource cards is displayed, with a red arrow pointing to the 'Biosecurity Checklist' card.



INFORMATION MANUAL FOR ENHANCED BIOSECURITY FOR PORK PRODUCTION: ANIMALS RAISED INDOORS



# Creating a Site Map

- How to create site map
- Items to label
- How to create the symbols using Microsoft Word

**Creating a Premises Map for a Biosecurity Plan**  
Animals Raised Indoors

The first step is to get an aerial map of your operation (steps described below). It can then be labeled by hand or using a computer (also described below).

**Getting an Aerial View from Google Maps\***

\*Google Maps is one example of aerial images provided free of charge online. There are others such as [www.aerialphotos.com](http://www.aerialphotos.com) and <http://maps.compass.com>, but what works best for your operation. The steps below pertain to Google Maps.

1. Open an internet browser. Type in the URL: <http://www.google.com/maps>
2. Type in the address of your production site (address where the buildings are located, not home address – if different).
3. Click on the small box in the lower left that says "Satellite"
4. Zoom in so that you can visualize all barns and accessory structures (once you see the satellite view, the entire site should still fit within the screen).
5. Find your site location on the map where the animals are located and click. A gray "pinpoint" icon will appear. At the bottom of the screen, you will see the GPS coordinates in light gray before the location's address. Copy this information to include in your premises map.
6. Go to your Biosecurity plan in Microsoft Word, but keep the internet browser in Google Maps open behind Word. Click on "Insert" in the toolbar, click "screenshot," click "screen clipping." The browser will move to the front and be frosted. You can now use the mouse to select the area you want to copy into the word document.
7. Label the map with the following items and include a legend:

- Perimeter Buffer Area (PBA)
- PBA Access Points
- Line of Separation (LOS)
- LOS Access Points
- Cleaning and disinfection (CMD) station(s)
- Designated parking area (label)
- Carcass disposal pickup location (label)
- Carcass removal pathways
- Vehicle movements (normal transport vehicles, deliveries, etc.)
- Site Entry

# SPS Plan: Biosecurity

The screenshot shows the SPS Secure Pork Supply website. The navigation menu includes: SPS PLAN, **PORK PRODUCERS**, VETERINARIANS, FINISERS, REGULATORY OFFICIALS, and TRAINING MATERIALS. The 'PORK PRODUCERS' menu is expanded to show options like 'Steps to Move', 'Biosecurity', 'Vaccination', 'Movement Records', 'Permit Guidance', 'Forms and SOPs', and 'Signs and Posters'. The 'Biosecurity' option is circled in red. A large blue arrow points from the 'Biosecurity' menu item towards the right side of the page.

**Creating a Premises Map for a Biosecurity Plan**  
Animals Raised Indoors

The first step is to get an aerial map of your operation (steps described below). It can then be labeled by hand or using a computer (also described below).

**Getting an Aerial View from Google Maps\***

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- LOS Access Points
- Cleaning and disinfection (CMD) station(s)
- Designated parking area (label)
- Carcass disposal pickup location (label)
- Carcass removal pathways
- Vehicle movements (normal transport vehicles, deliveries, etc.)
- Site Entry

# Inputs and Outputs



## Animals and Semen Movement





# Feed



# Fuel or Propane Delivery



# Personnel



# Package Deliveries



- Supplies
- Medications
- Vaccines



# Garbage Removal



# Carcass Disposal



# Manure Management



# Contingency Plans

- Inclement Weather
  - Sheltered C&D area
  - Off-site location
  - Alternate delivery options
- Stop Movement
  - Welfare concerns
  - Carcass disposal



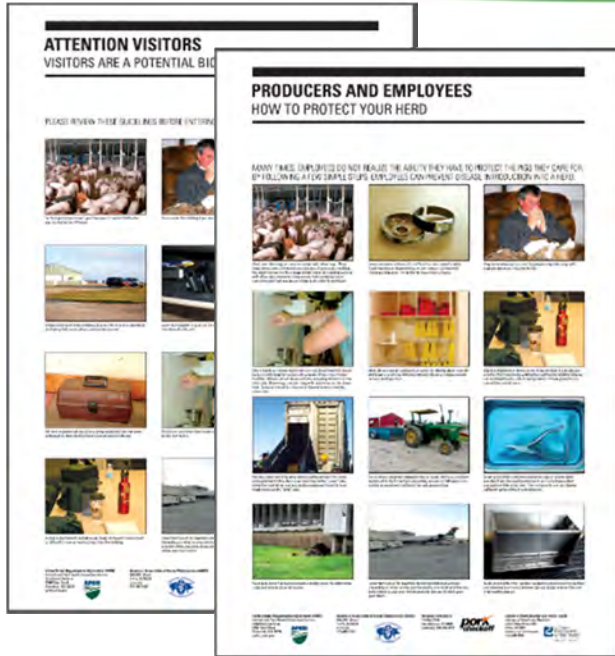


### Biosecurity Topics:

- Introduction
- Do not bring disease to the site
- Perimeter Buffer Area
- Line of Separation and Bench Entry



# Biosecurity Posters



- Producers and Employees
- Visitors
- English and Spanish
- Laminated copies at the pork store

www.securepork.org



# SPS Plan: Biosecurity

**SPS SECURE PORK SUPPLY**

SPS PLAN | PORK PRODUCERS | VETERINARIANS | PACKERS | REGULATORY OFFICIALS | **TRAINING MATERIALS**

**Training Materials**

**Biosecurity**

**Enhanced Biosecurity Training**

The biosecurity plan can only work if EVERYONE on the site follows it ALL of the time, which requires training. The following videos and materials provide caretakers with some of the information they need to be part of the herd health protection team. Remember to document all training (visit [Forms](#) page).

**Four Biosecurity Training Videos**

- 1. Introduction to Biosecurity: why it is important to follow biosecurity measures**
  - Video (download): English (3mb) | Spanish (17mb)
  - Video (watch): English (3:28 mins) | Spanish (5:44 mins)
- 2. Do Not Bring Disease to the Site:** Biosecurity measures to follow to avoid bringing diseases to a production site
  - Video (download): English (2mb) | Spanish (13mb)
  - Video (watch): English (3:45 mins) | Spanish (5:56 mins)
- 3. Perimeter Buffer Area (PBA):** What the PBA is and biosecurity measures to follow when entering the PBA.
  - Video (download): English (6mb) | Spanish
  - Video (watch): English (4:06 mins) | Spanish
- 4. Line of Separation (LOS) and Biosecure Entry:** What the LOS is and biosecurity measures to follow when crossing the LOS - English | Spanish

**Biosecurity Signs**

Several signs have been made for use on pork production sites for biosecurity.

- Do Not Enter - Cross only at Biosecure Entry Point: English/Spanish
- Authorized Personnel Only: English | Spanish
- Biosecure Entry Ahead: English | Spanish

**Biosecurity Posters**

Download and print these full color 11" by 17" posters for educational use.

- Producers and Employees: How to Protect Your Herd
  - English | Spanish
- Attention Visitors/Visitors are a Potential Biosecurity Risk:
  - English | Spanish

**Order Free 11" by 17" Laminated Posters!**

Go to [the Pork Store](#) and enter item #

**Protect Your Herd:** English (item #04880), Spanish (item #04889)

**Visitors are a Risk:** English (item #04892), Spanish (item #04890)



# Assignment



# Site Map



# Review Inputs/Outputs

- Review inputs and outputs for site
  - Animals/semen
  - Feed
  - Fuel/propane deliver
  - Personnel
  - Package delivery
  - Garbage delivery
  - Carcass disposal
  - Manure



# Enhanced Biosecurity Checklist

**Self-Assessment Checklist for Enhanced Pork Production Biosecurity: Animals Raised Indoors**

**Recommendations for Biosecurity**

Each recommendation described below has three possible responses described below. Implementation of each component is essential to prevent virus entry and protect the health and well-being of the swine on the site.

- **In place:** All items are addressed in the biosecurity plan and are, or are capable of being, implemented on the pork production site as evidenced by visual inspection or by signed and dated documentation, as applicable, or as described.
- **In progress:** Some, but not all, of the items are addressed in the biosecurity plan and are, or are capable of being, implemented on the pork production site as evidenced by visual inspection or by signed and dated documentation, as applicable, or as described.
- **Not in place:** The items listed and listed addressed in the biosecurity plan are not capable of being implemented on the pork production site.

**1. Biosecurity Manager and Written Plan**

A biosecurity manager is identified for the site. The individual is responsible for developing the biosecurity plan, with the assistance of the herd veterinarian (if the biosecurity manager is not a veterinarian) and ensuring biosecurity training of, or communicating biosecurity messages with, 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.

In place     In progress     Not in place

A site-specific, written, animal biosecurity plan has been developed and implemented by the biosecurity manager. It is reviewed at least annually and whenever the site goes through a change that affects biosecurity (regional and/or new aspects of the business, etc.). The biosecurity plan clearly defines the scope of the operation and includes biosecurity for other enterprises that operate close to the premises. The biosecurity plan includes a promise map labeled with the site entry. Purpose of Biosecurity Plan (BPP). List of important (1,5%) access points (loading and unloading (CAL) stations), managed parking, and crew/donut pickup location. The map includes vehicle maintenance (annual inspection, vehicle, deflators, etc.) and access restricted pathways. The biosecurity manager ensures that all individuals entering the site biosecurity (weekly or more often) have a current copy of the biosecurity plan.

In place     In progress     Not in place

**2. Training**

The biosecurity manager(s) and essential personnel are trained at least annually about the biosecurity measures necessary to keep a PFD out of the herd (training is documented). The biosecurity manager(s) trainees individuals ensuring the site of the biosecurity manager they are to follow in a language they understand. Individuals are aware of the biosecurity messages and procedures that apply to their specific areas of responsibility. The biosecurity plan documents the training record (date, location, attendees, etc.).

In place     In progress     Not in place

SPS Plan: Enhanced Biosecurity Checklist: Animals Raised Indoors, August 2017



## INFORMATION MANUAL FOR ENHANCED BIOSECURITY FOR PORK PRODUCTION: ANIMALS RAISED INDOORS





# Enhanced Biosecurity Template

**Enhanced Biosecurity  
Plan for FAD Prevention in \_\_\_\_\_**

Date: \_\_\_\_\_

This Biosecurity Plan is based off of the Secure Pork Supply (SPS) Self-Assessment Checklist for Enhanced Pork Production Biosecurity: Animals Raised Indoors, (August 2017) and was developed using guidance from the SPS Information Manual for Enhanced Biosecurity: Animals Raised Indoors. All documents are available at [www.securepork.org](http://www.securepork.org).

**Scope of Biosecurity Plan**

- National Premises Identification Number (PPID or PDI): \_\_\_\_\_ (request from the office of the State Animal Health Official)
- Premises Address: \_\_\_\_\_
- Premises GPS Coordinates: \_\_\_\_\_
- Animals\* on primary premises: \_\_\_\_\_
- Other business operations on premises? If yes, what? \_\_\_\_\_
- Secondary premises\*\* locations (FNI, P11 address, or GPS coordinates): \_\_\_\_\_
  - Will be provided to Responsible Regulatory Officials if this premises is located in an FAD Control Area
  - Work with your State Animal Health Official to determine if separate PDI's are needed for all of your associated premises.

\*Animals that are susceptible to FAD include cattle, pigs, sheep, goats, and all. For biosecurity guidance for dairy cattle and beef cattle see [www.securepork.org](http://www.securepork.org) and [www.securepork.org](http://www.securepork.org).  
 \*\*Work with your State Animal Health Official to determine if separate PDI's are needed for all of your associated premises. When a premises becomes infected, all premises with the same PDI number will be considered to be infected.

**1. Biosecurity Manager and Written Plan**

The designated Biosecurity Manager for this site and their contact information follows:

NAME: \_\_\_\_\_  
 PHONE: \_\_\_\_\_  
 EMAIL: \_\_\_\_\_

In the event the Biosecurity Manager is away from the site, their designer's contact information is:

NAME: \_\_\_\_\_  
 PHONE: \_\_\_\_\_  
 EMAIL: \_\_\_\_\_

The Biosecurity Manager's contact information is posted \_\_\_\_\_

Enhanced Biosecurity Plan 2



# Writing Biosecurity Plan

**Enhanced Biosecurity  
Plan for FAD Prevention in \_\_\_\_\_**

Date: \_\_\_\_\_

This Biosecurity Plan is based off of the Secure Pork Supply (SPS) Self-Assessment Checklist for Enhanced Pork Production Biosecurity: Animals Raised Indoors, (August 2017) and was developed using guidance from the SPS Information Manual for Enhanced Biosecurity: Animals Raised Indoors. All documents are available at [www.securepork.org](http://www.securepork.org).

**Scope of Biosecurity Plan**

- National Premises Identification Number (PPID or PDI): \_\_\_\_\_ (request from the office of the State Animal Health Official)
- Premises Address: \_\_\_\_\_
- Premises GPS Coordinates: \_\_\_\_\_
- Animals\* on primary premises: \_\_\_\_\_
- Other business operations on premises? If yes, what? \_\_\_\_\_
- Secondary premises\*\* locations (FNI, P11 address, or GPS coordinates): \_\_\_\_\_
  - Will be provided to Responsible Regulatory Officials if this premises is located in an FAD Control Area
  - Work with your State Animal Health Official to determine if separate PDI's are needed for all of your associated premises.

\*Animals that are susceptible to FAD include cattle, pigs, sheep, goats, and all. For biosecurity guidance for dairy cattle and beef cattle see [www.securepork.org](http://www.securepork.org) and [www.securepork.org](http://www.securepork.org).  
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 PHONE: \_\_\_\_\_  
 EMAIL: \_\_\_\_\_

The Biosecurity Manager's contact information is posted \_\_\_\_\_

Enhanced Biosecurity Plan 2



# Assignment Checklist

- Print copies aerial views of 1-2 site(s)
- Make a list of inputs/outputs
- Draw the PBA on the map
- Identify Biosecurity Manager for site
- Review checklist items 3-10 and fill out "easy" items in biosecurity templates
  - Make a list of challenges and bring to workshop



[www.securepork.org](http://www.securepork.org)

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SPS PLAN PORK PRODUCERS VETERINARIANS PACKERS REGULATORY OFFICIALS TRAINING MATERIALS

Move Your Pigs

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SPS Plan for Continuity of Business

If foot and mouth disease (FMD), classical swine fever (CSF), or African swine fever (ASF) is found in United States livestock, Regulatory Officials will limit the movement of animals and animal products to try and control the spread of these very contagious animal diseases.

**FMD, CSF, and ASF are not public health or food safety concerns. Meat will still be safe to eat.**

The Secure Pork Supply (SPS) Continuity of Business Plan provides opportunities to voluntarily prepare before an outbreak. This will better position pork premises with animals that have no evidence of infection to



# Inputs/Outputs to the Site

## Determining the location of the Perimeter Buffer Area



Cleaning and disinfection (C&D) of vehicles crossing the Perimeter Buffer Area (PBA) is time and resource intense but necessary to keep foreign animal diseases (FADs) off the site.

Carefully planning the location of the PBA based on the types, drive path, frequency, and necessity of inputs/outputs can help focus resources to minimize foreign animal disease (FAD) entry.

Decide if some routine movements could be modified. For example, move your garbage bin to the edge of the PBA so the garbage truck can pick it up without crossing the PBA.

Consider the list of potential inputs/outputs below, and their frequency, as you determine the site's PBA.

- Incoming animals
- Outgoing animals
- Feed commodity delivery (bulk ingredients, bagged feed)
- Semen delivery or leaving (boar studs)
- Fuel delivery
- Propane delivery
- Personnel (employees, consulting veterinarian, nutritionist, vaccination crews, barn clean-out crew, load-out crew, AI technicians, etc.)
- Pharmaceutical deliveries
- Mail/package deliveries
- Garbage removal
- Dead animal removal
- Manure removal
- Grounds keeping equipment (skid loaders, mowers, tractors)
- Residence/home (vehicle traffic, school bus, deliveries, etc.)
- Other \_\_\_\_\_
- Other \_\_\_\_\_