



# Securing Food Supply Chains: Pork Industry Perspective

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Douglas W Newcom, PhD  
National Swine Registry

# Outline

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- Background
- Objective
- Foreign Animal Disease
- Human Disease
- Thoughts







# Background

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- Diversified farming operation
- Industry internships
- Undergraduate agriculture degree
- M.S. and PhD in Animal Breeding & Genetics
- Corporate Breeding Stock company employment
- National Swine Registry
- Industry involvement
  - Indiana Pork Board
  - US Livestock Genetics Export
  - National Swine Improvement Federation
  - National Pedigreed Livestock Council
  - American Association of Swine Veterinarians
  - National Pork Producers Council Animal Traceability Task Force

# Background



# Objective

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Provide guidance to support research initiatives  
surrounding the topic of food security

# Animal Disease Disasters: Answering the Questions You Didn't know You Had





# World Organisation for Animal Health

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- Founded in 1924 as Office International des Epizooties (OIE), with current name adopted in 2003, this **intergovernmental organizations improves animal health and welfare across the globe** by:
  - Collecting, analyzing and disseminating veterinary scientific information;
  - Encouraging international solidarity in the control of animal health risks; and
  - Fostering a One Health approach.



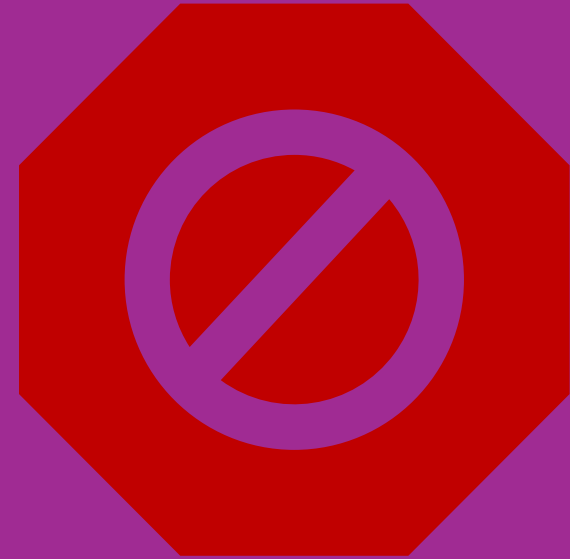
World Organisation  
for Animal Health  
Founded as OIE

# Commerce and Trade





**There's more  
than 1 million  
pigs on the road  
each day.**



# Cumulative losses Over 10 years

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## Foot and Mouth Disease<sup>1</sup>:

Pork – \$57 Billion

Beef – \$71 Billion

Poultry - \$1 Billion

Corn - \$44 Billion

Soybeans – \$25 Billion

Wheat – \$1.8 Billion

## Classical Swine Fever<sup>1</sup>:

- Pork – \$51 Billion
- Corn – \$28.4 Billion
- Soybeans – \$16.8 Billion


## African Swine Fever:

- Pork – \$79.5 Billion<sup>2</sup>
- 7,550 jobs directly and 1.13 million jobs throughout the economy<sup>3</sup>

1. Hayes D, Fabiosa J, Elobeid A, Carriquiry M. 2011. "Economy Wide Impacts of a Foreign Animal Disease in the United States." Working Paper 11-WP 525

2. Carriquiry, M., A. Elobeid, and D.J. Hayes. 2023. "National Impacts of a Domestic Outbreak of Foot and Mouth Disease and African Swine Fever in the United States." Working paper 23-WP 650. Center for Agricultural and Rural Development, Iowa State University

3. U.S. agricultural exports supported more than 1 million jobs throughout the economy in 2020." <https://www.ers.usda.gov/data-products/chart-gallery/gallery/chart-detail/?chartId=103827>.

A woman with dark hair, wearing glasses and a light blue polo shirt, is shown in profile, looking towards the left. She is in a barn-like setting with wooden beams and large windows in the background. The lighting is bright, suggesting daylight.

# African Swine Fever and Foot and Mouth Disease

**\$231 Billion**

*Over 10 years*

# How do we prevent it?

## Biosecurity:

- KEEP IT OUT!!!
- BUT, if it does get here, then what?
- Response plans have been under development for years
- Industry collaboration



# Travelers

Resources available on [porkcheckoff.org](http://porkcheckoff.org)

National Pork Board | [porkcheckoff.org](http://porkcheckoff.org)

## Swine Health Guide

### Pork Industry Guidelines: Hosting International Visitors

These guidelines apply to U.S. organizers hosting international visitors that will tour farms, plants, live and/or wet markets, research facilities, laboratories or any other location where cross-contamination could occur directly or indirectly between the traveler and a swine or animal excretions.

**Setting up Trips/Tours**  
Organizers of U.S. trips/tours or those working with a third party to organize trips including tours to locations where cross-contamination is likely to occur should use the following guidelines.

**Organizers**  
Identify locations that may be visited and ensure the availability of protective equipment for all visitors to those locations.

**International Visitors**

- Must be pre-approved by the hosting organization/party and the appropriate representative for each location being visited.
- Should receive written biosecurity policies in advance of trip and provide written verification of their receipt and acceptance prior to arrival in the United States.
- Must provide written verification that they have observed at least 5 days of no contact with swine prior to arriving in the United States.
- Must shower (in the U.S.) prior to arrival to a U.S. swine facility. Also, must wear new or clean clothes and footwear that have never been worn around swine or in areas where swine are housed or pass through.
- Must not bring any personal items, other than eyeglasses that can be disinfected, can enter a site. Personal items such as cell phones, cameras, jewelry, watches, etc., must be left in a vehicle or at the visitors' lodging.
- Must avoid direct animal contact or entry into pens.

**Organizers**

- Confirm that the local health department has been notified of the visit.
- Footwear, coveralls or protective equipment for all visitors to those locations.
- Ensure the availability of disinfectants that help reduce the risk of cross-contamination at those locations where cross-contamination is likely to occur.
- Ensure that subgroups of visitors do not follow company vehicles.
- No set requirements for the number of visitors.
- Designate an individual responsible for ensuring all visitors follow all guidelines.

**Checklist for the International Visitor**

- Have a site visit prior to the trip.
- Have a designated location for visitors to stay.
- Have a designated location for visitors to shower.
- Provide a list of all locations to be visited.
- Have a designated person to provide information to visitors.
- Have a designated person to provide information to the host organization.

**Setting up Trips/Tours**  
Organizers of international trips, or those working with a third party to organize international trips, should follow all approved criteria as they plan a trip.

- Hosts or organizers of any tour locations must provide site-specific protective equipment (PPE).
- If the host location will not provide footwear, coveralls/smocks or other clothing or PPE, make sure that disposable coveralls, gloves and other necessary PPE (gloves, hairnets, safety glasses) are provided to participants.
- Trip participants should be provided personal-sized broad-spectrum disinfectant wipes for articles that cannot be washed or disinfected in water-based solutions.
- Trip organizers should ensure the availability of in-country approved broad-spectrum disinfectants. These should be applied to footwear to help reduce the risk of post-visit pathogen transfer.
- Trip participants should be provided a summary of swine diseases of concern that exist in the countries being visited.
- Trips should be planned to allow adequate time between end of the trip and the flight home to allow for laundering of clothing in-country.
- Arrangements should be made for participants to bring or purchase footwear that can be left in-country before flying back to the U.S.

**Biosecurity Guidelines**  
**Downtime:** Five nights of downtime (no contact with swine or other livestock species) in the United States after returning from the trip.

**Personal Items/Clothing:** In general, washable and non-washable personal items, footwear and clothing worn on international trips should never be worn on U.S. farms or locations where animals are housed or pass through, even if they are washed, disinfected and/or dried.

**Washable Items:** If possible, after visiting high-risk locations/destinations in-country, wash all clothing before leaving the country. If not possible, then wash all washable items as soon as possible following arrival into the United States. These items should not come into contact with other items or be washed with any other items. Clean suitcases/travel bags that have contained soiled clothing or footwear. Consider leaving highly-soiled clothing items behind in the country visited.

Wash items using hot water. Use bleach or color-safe bleach for items that require it. Use regular laundry detergent for items that cannot be bleached. Dry using high heat in clothes dryer.

**Non-washable Items:** Clean the item first to remove all visible organic matter then spray or wipe with an approved broad-spectrum disinfectant according to label directions.

**Electronic non-washable items:** These items should not go onto a farm site. If they reach the farm, they must stay inside a vehicle.

**Footwear:** Take or buy inexpensive footwear in-country for use when visiting locations where you can come in contact with animals, places that animals have been housed, or passed through areas that may be contaminated, such as at a wet market. Leave or dispose of that footwear in-country before heading back to the U.S.

**Prior to Your Flight Home:** Shower, and dress in clean clothing and shoes. When showering, make sure to thoroughly wash your hair, and body. Pay close attention to cleaning hands and under the shower.

**Other Items**  
**Inanimate Objects:** No inanimate objects should be brought into the United States that had contact with live animals or were in the environment of any live animals or their excretions.

**Food, etc.:** No food or drink, packaged or unpackaged, should be brought into the U.S.

**Declaration:** Upon your return through customs, truthfully declare your international visit and animal/animal product contact.

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#04043-3/19













Photo Credit: Terry Morris, USDA, APHIS, PPQ, VRS

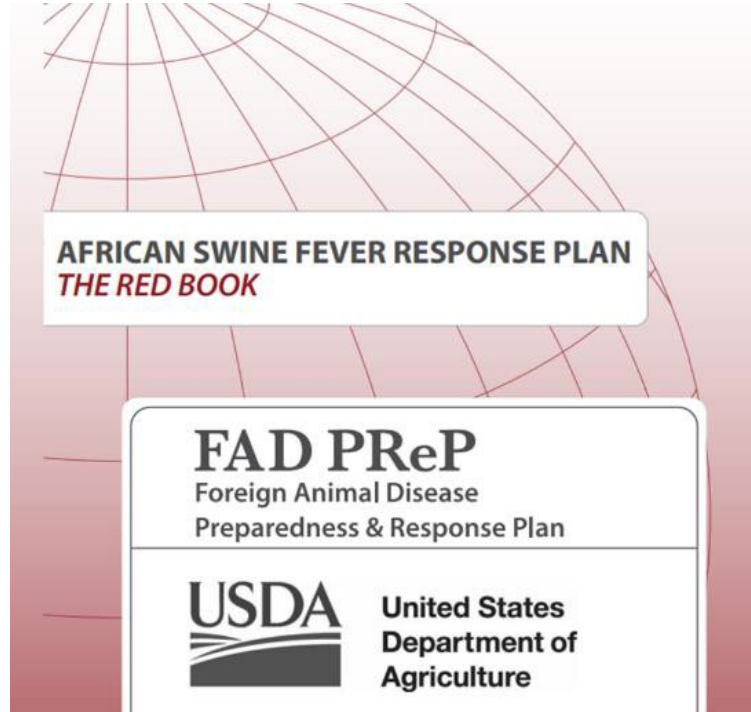






# Plans!

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National Pork Board | 800-456-7675 | pork.org

**pork checkoff**

Swine Health Producer Guide

### Foreign Animal Disease (FAD) Preparation Checklist

Author: Patrick Webb, DVM, National Pork Board

A confirmed case of foot-and-mouth disease (FMD), classical swine fever (CSF) and/or African swine fever (ASF) in U.S. swine will immediately close export markets and disrupt pig movements resulting in severe economic losses and business disruption. This resource provides a checklist of processes and practices that if implemented by producers will help speed response times to an outbreak by animal health officials and industry. For each checklist category, further information can be found under the rationale and resources section.

National Pork Board | 800-456-7675 | pork.org

**pork checkoff**

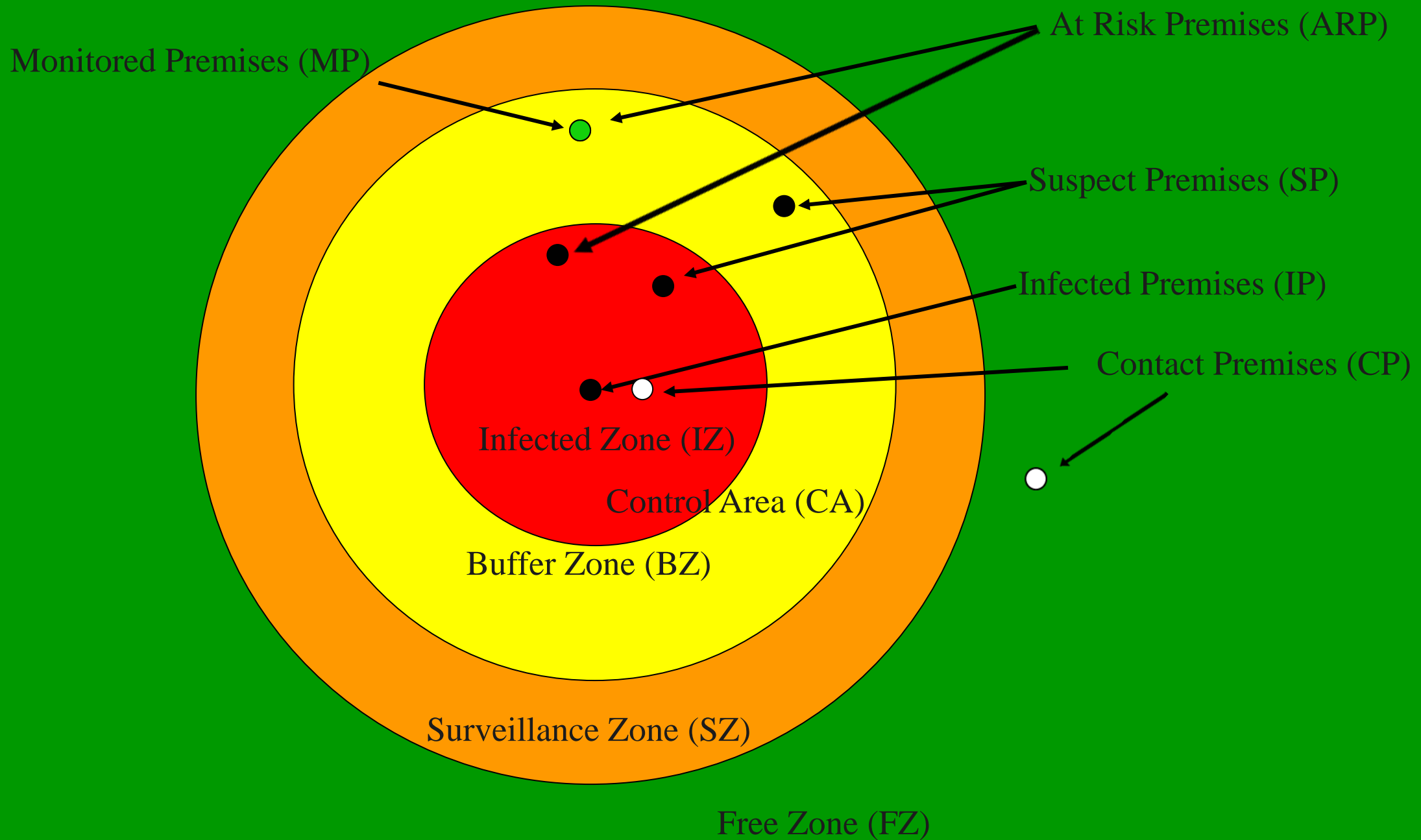
Swine Health Producer Guide

### Steps to take if foreign animal diseases (FADs) are confirmed in the United States

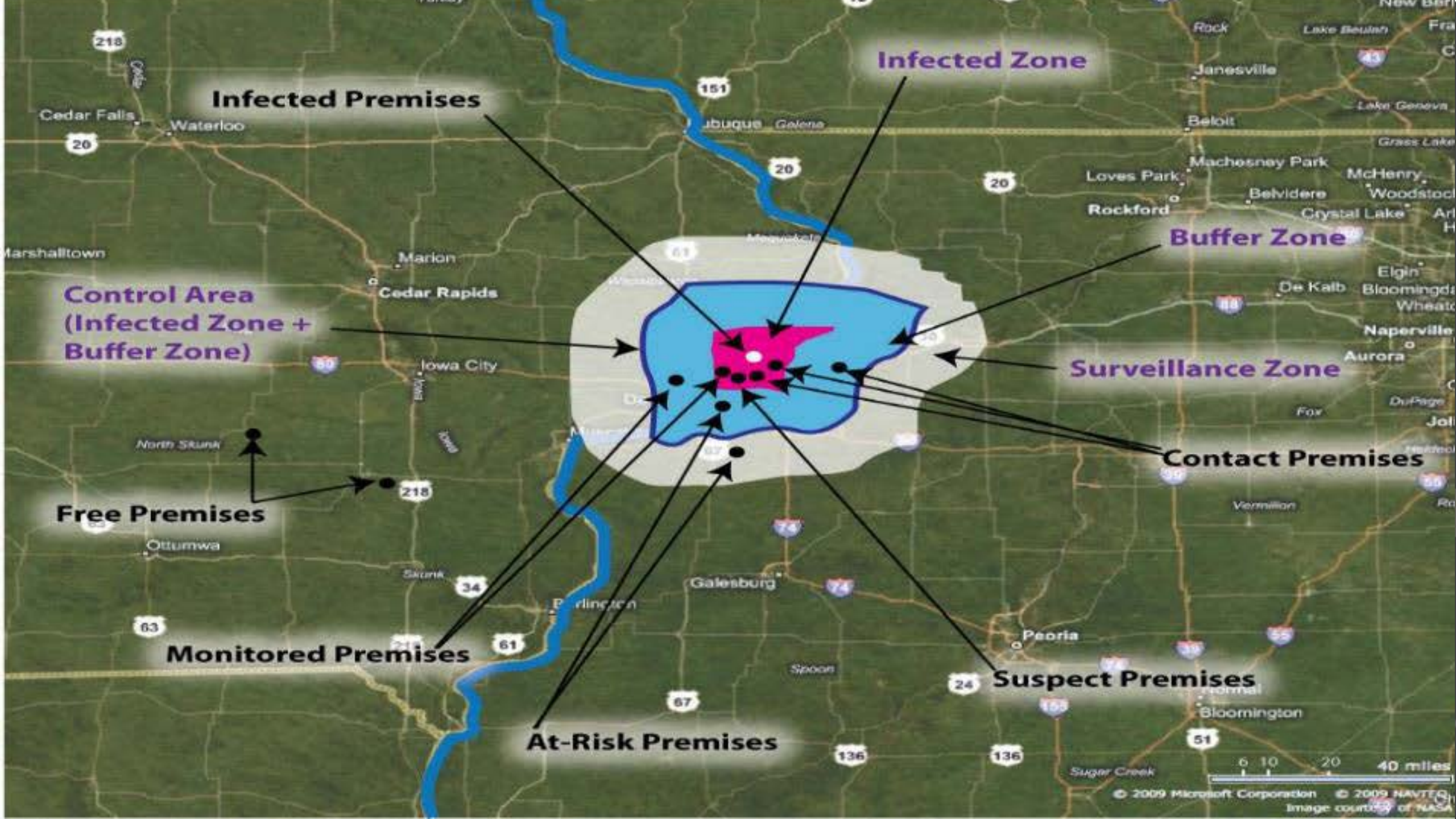
Key Points

- Foreign animal diseases (FADs) are a very serious concern not only for the health and well-being of the animals, but also for their immediate effect on the movement and sale of pigs.
- While biosecurity should always be high and producers should always report suspect FADs, it's extremely critical to be more vigilant if a FAD is confirmed in the United States.
- If a producer is directly contacted by their State Animal Health Officials (SAHIOs) or Federal Animal Health Officials, he/she should abide by the guidance they provide. This information is not intended to override specific instructions that are communicated directly to producers from these officials.

Author: Patrick Webb, DVM, National Pork Board







**PORK  
PACKER**



Data Associated with a PIN (USDA)

- name of entity
- owner or appropriate contact person
- street address, city, state, and zip or postal code
- contact phone number
- operation type (farm, vet clinic, sale barn)
- date activated, date retired, and the reason
- alternative phone numbers

Data Associated with a PIN (State)

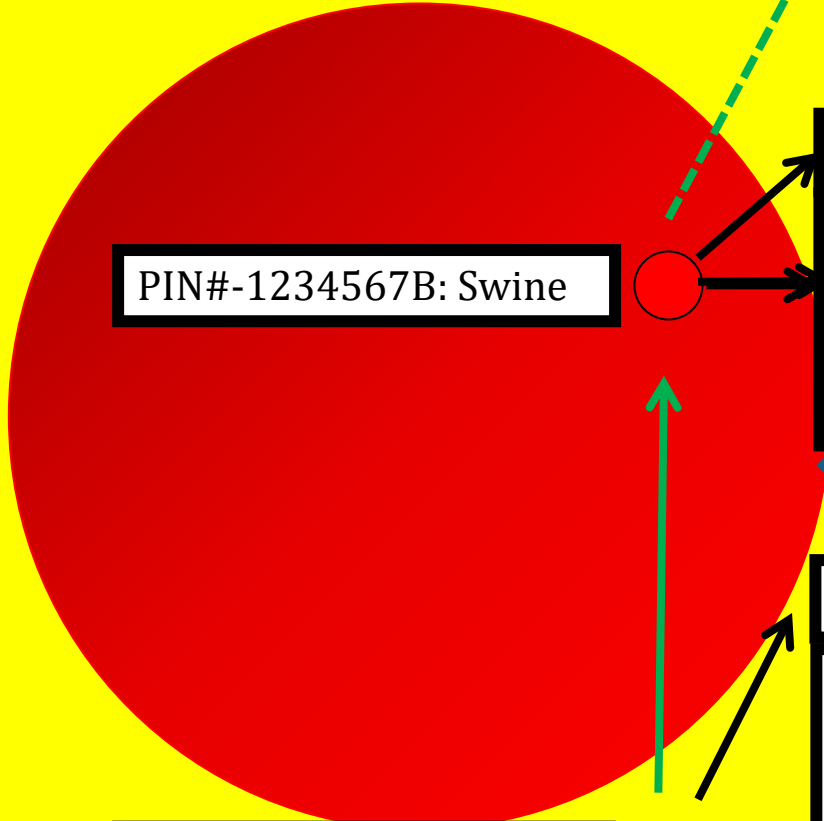
- Species + Above Info

**PIGS**



PIN#-765432A: Pork Packer

Packer  
Received Pigs from  
AA13579 on XX / XX /2012  
BB24688 on XX / XX /2012  
ETC.....



PIN#-1234567B: Swine

8 Finishers with 1250 Pigs per barn

Movements  
Disease Status = +/- or Unknown  
Sending PIN 123456A  
Pigs will be shipped to PIN 765432A on XX / XX / 2012

PIN#-AA13579: Swine

Sow Farm = 5000 Sows

Movements = 3 loads a week  
1. Premises 123456A to Premises 123456B  
2.1 Disease Status = +/- or Unknown  
Pigs placed 4 weeks ago  
3. ETC.....

PIN#-BB24688: Swine

PIN# -123456A: Swine

PIN#-1234567C: Swine



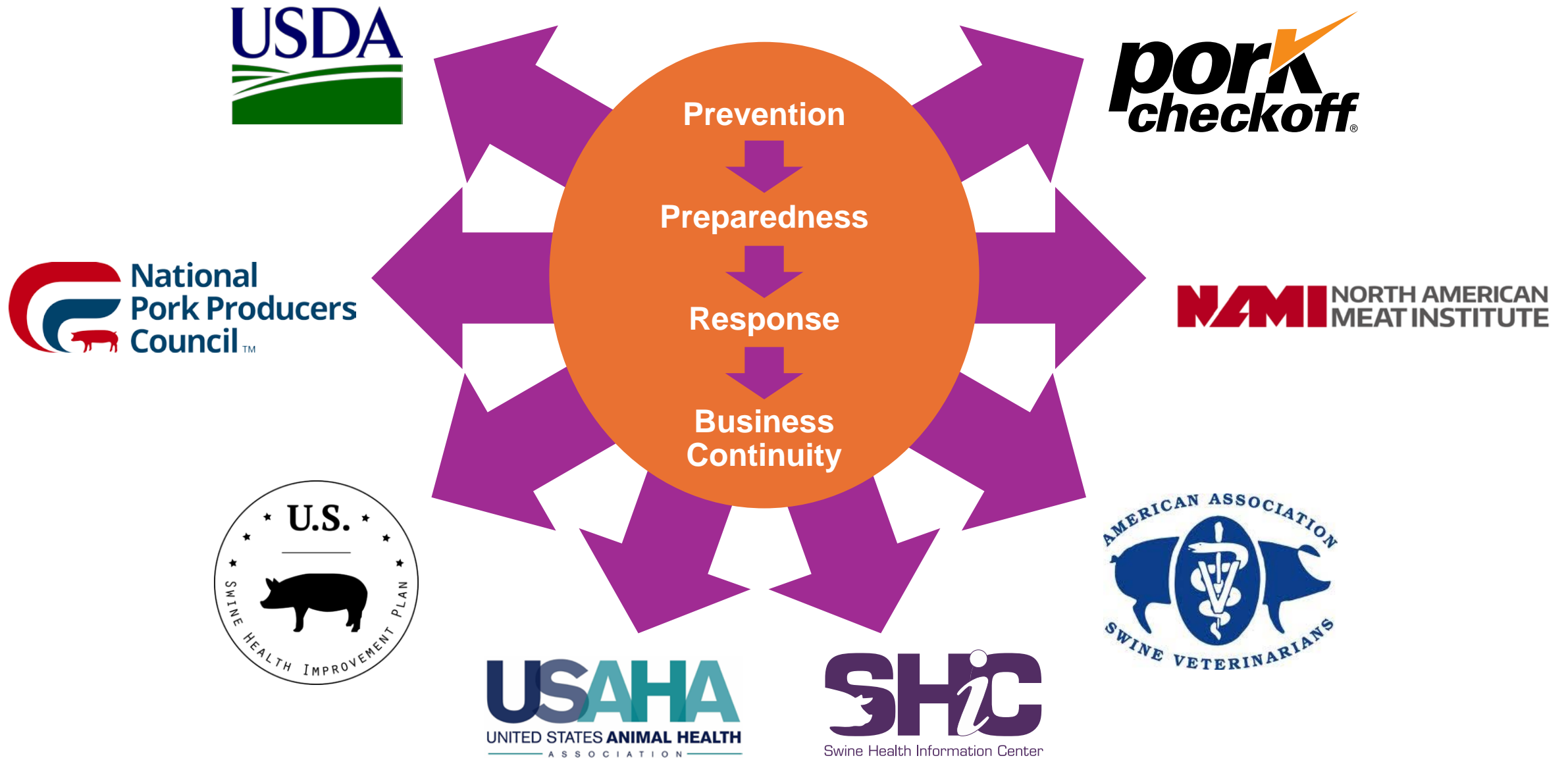
So, what are  
the tools  
in our  
toolbox?

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# Foreign Animal Disease: Collaboration for Success

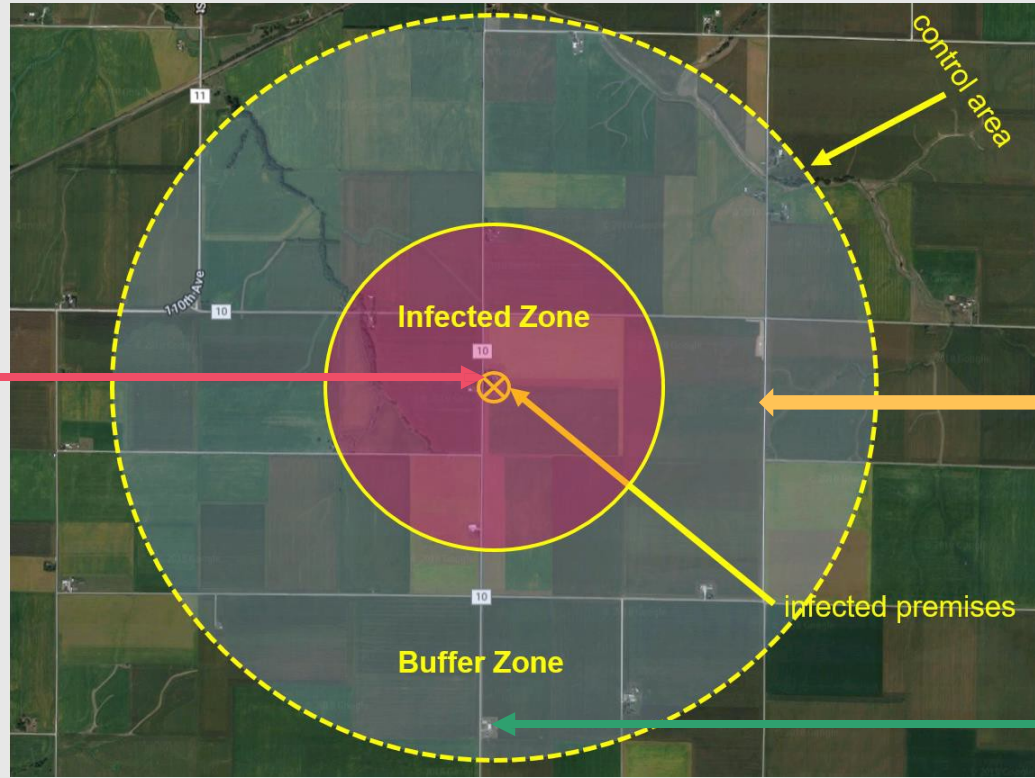
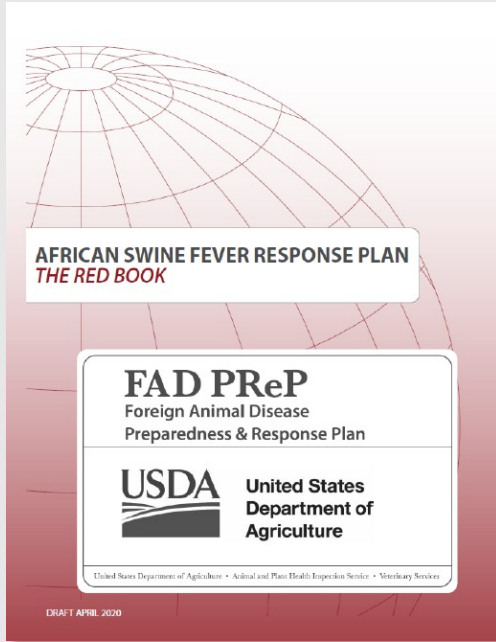


**Traceability**  
(AgView)

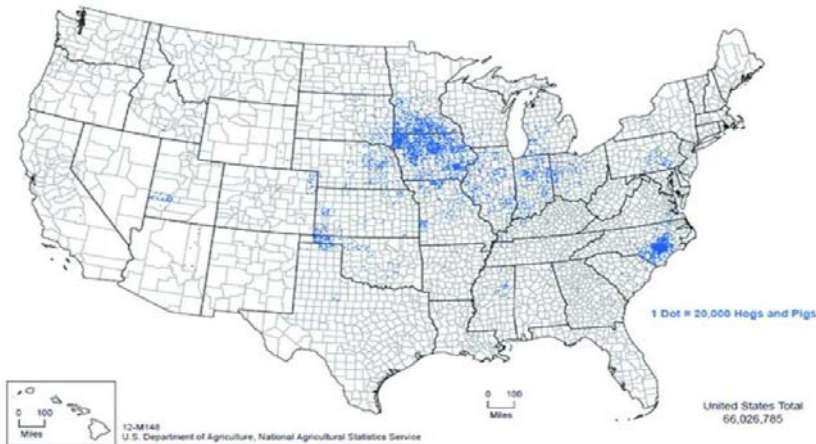
**Sampling  
and Testing**  
(CSSC)

**Biosecurity**  
(Secure Pork Supply)





Disease Free Areas



# Secure Pork Supply Plan



SPS SECURE PORK SUPPLY

SPS PLAN PORK PRODUCERS VETERINARIANS PACKERS REGULATORY OFFICIALS TRAINING MATERIALS

Pork Producers

Steps to Move

Resources Number

**Biosecurity**

Disease Monitoring

Vaccination

Movement Records

Permit Guidance

Forms and SOPs

Signs and Posters

### Biosecurity Resources for Producers

Implementing enhanced biosecurity plans will help prevent exposing animals to foot and mouth disease (FMD), classical swine fever (CSF), and African swine fever (ASF). Be prepared to share your plan with State Animal Health Officials prior to an outbreak (if requested).

#### Write a site-specific enhanced biosecurity plan!

Work with your herd veterinarian and use the resources below to get started.

#### Already have a biosecurity plan?

Compare it to the checklist below and make sure all the items are included in your plan. If not, enhance your biosecurity plan.

#### Are caretakers trained in biosecurity?

Encourage caretakers to watch the videos available under [Biosecurity Training Materials](#).

- Biosecurity Checklist**  
[Biosecurity Checklist for Animals Raised Indoors](#)
- Biosecurity Manuals**  
[Biosecurity Info for Animals Raised Indoors](#)
- Protect Your Premises**  
Example: [Separate building layout](#)  
Example: [Enclosed walkway layout](#)
- Creating a Premises Map**  
[Premises Map Instructions: Animals Raised Indoors](#)
- Customizable Templates**  
[Biosecurity Plan Template \(TYPE premises info\)](#)  
[Biosecurity Plan Template \(WRITE premises info\)](#)
- Biosecurity Forms**  
[Employee and Visitor Arrival Agreement](#)  
[Record of Checking Rodent Bait Stations](#)  
[Cleaning and Disinfection Inventory Log](#)
- Signs**  
Do Not Enter – Cross only at Biosecurity Entry Point: [English/Spanish](#)  
Authorized Personnel Only: [English | Spanish](#)  
Biosecurity Entry Ahead: [English | Spanish](#)

### 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 (Prem ID or PIN): \_\_\_\_\_ (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 (PIN, 911 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 PINs are needed for all of your associated premises.

\*Animals that are susceptible to FMD include cattle, pigs, sheep, goats, and elk. For biosecurity guidance for dairy cattle and beef cattle, see [www.securemilksupply.org](http://www.securemilksupply.org) and [www.securebeef.org](http://www.securebeef.org).  
\*\*Work with your State Animal Health Official to determine if separate PINs are needed for all of your associated premises. When a premises becomes infected, all premises with the same PIN 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 designee's contact information is:

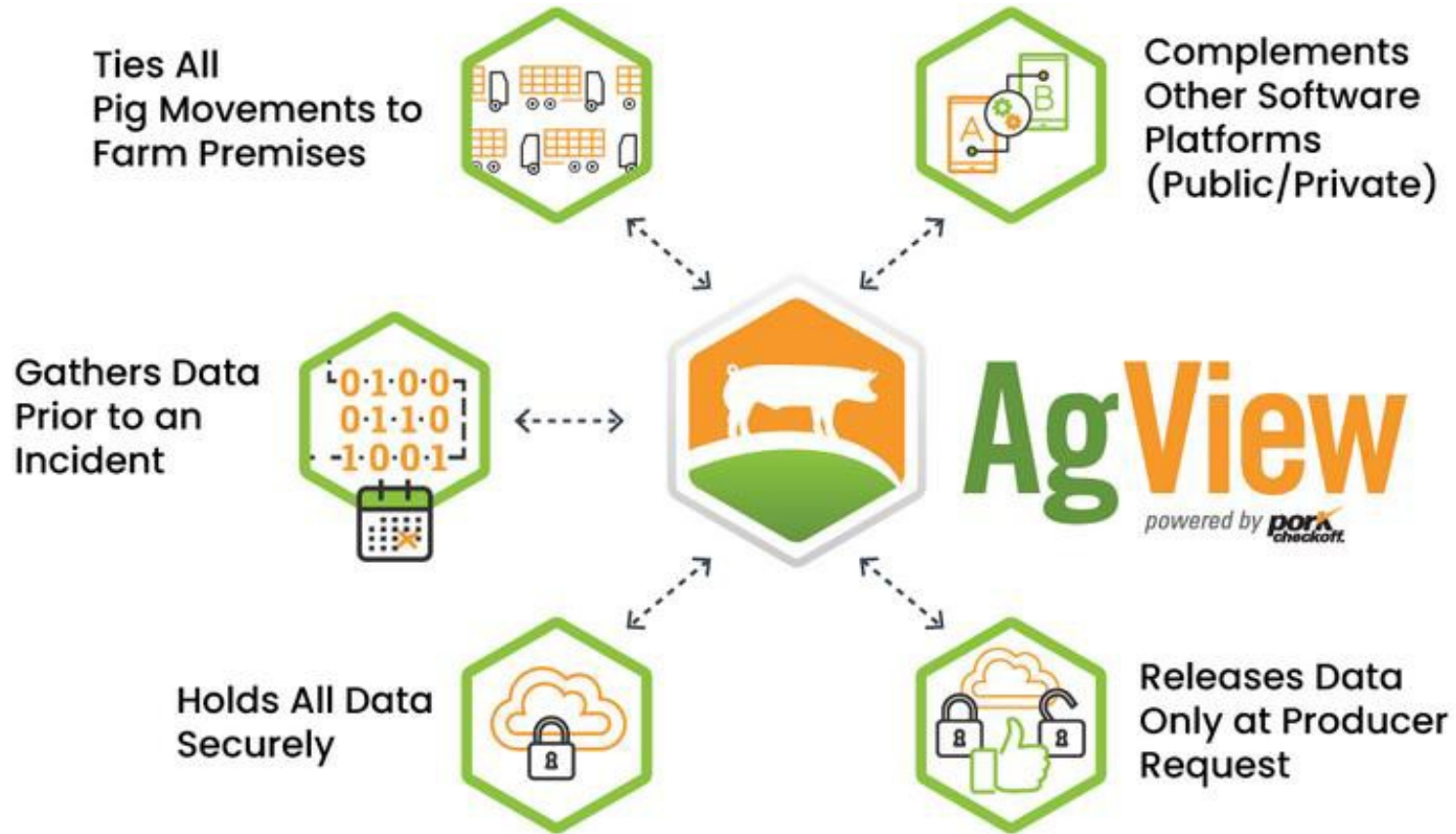
NAME: \_\_\_\_\_  
PHONE: \_\_\_\_\_  
EMAIL: \_\_\_\_\_

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

Enhanced Biosecurity Plan 2

- Funded by Pork Checkoff and USDA
- Voluntary
- Resources and templates are available at [securepork.org](http://securepork.org), including the Enhanced Biosecurity Plan





Learn more about AgView: [porkcheckoff.org/agview](https://porkcheckoff.org/agview)



Sampling And Testing

# US Swine Health Improvement Plan

*Piloting a proven platform for safeguarding, certifying, and bettering animal health.*



**Biosecurity, Traceability, & Disease Surveillance**

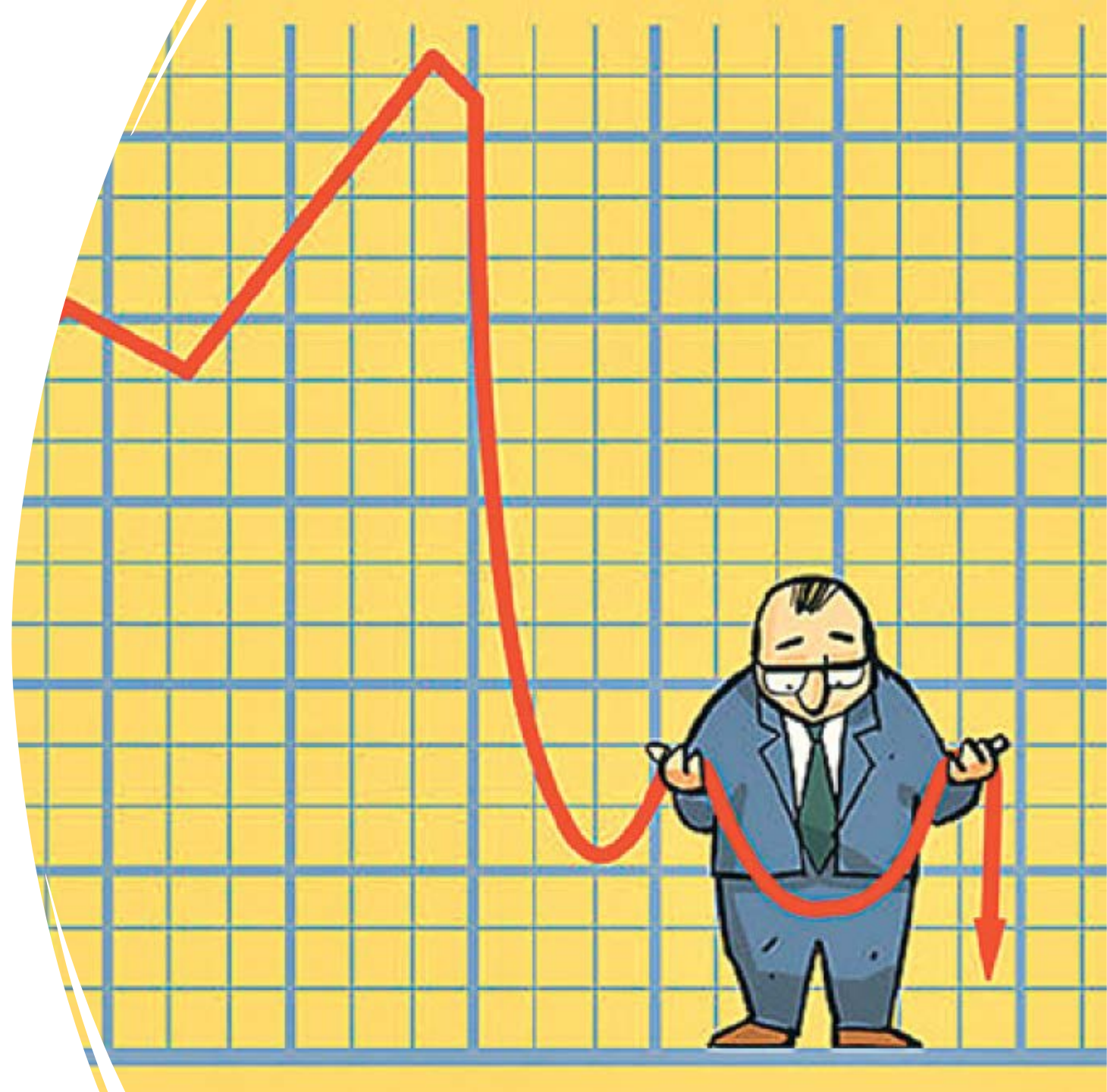
*The time for such a national strategy is now!*

A USDA Veterinary Services sponsored initiative with support from state and industry partners.

# Human Health

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- COVID-19
- Always assumed a swine disease would grind the industry to a halt – we were wrong!
- Wal Mart model of production
  - Weekly processes
  - “Just in time” inventory
  - System efficiency
- Remote work possibilities
  - Some jobs CANNOT be done remotely





# Depopulation

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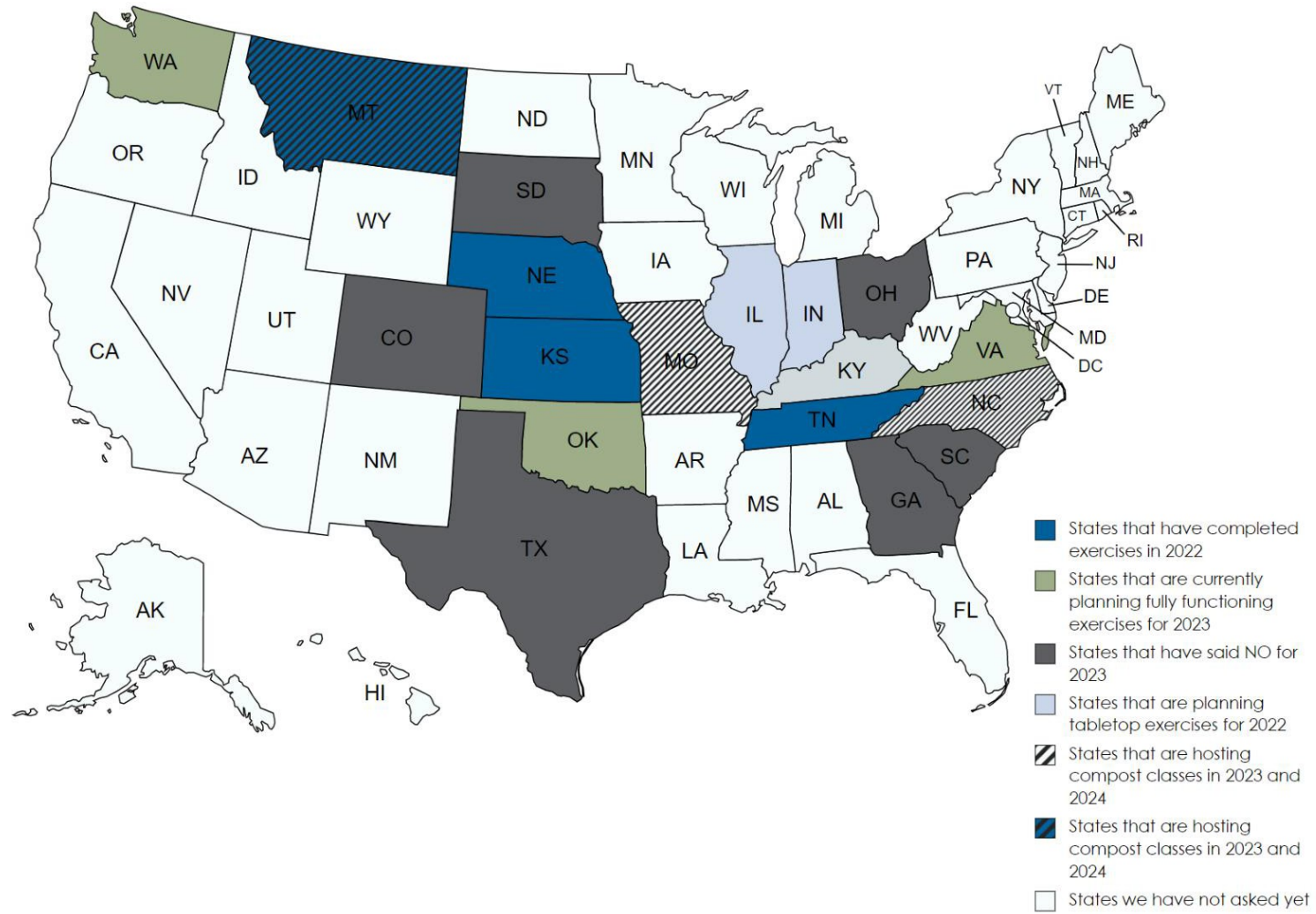


# Carcass Disposal

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- States that have completed exercises in 2022
- States that are currently planning fully functioning exercises for 2023
- States that have said NO for 2023
- States that are planning tabletop exercises for 2022
- States that are hosting compost classes in 2023 and 2024
- States that are hosting compost classes in 2023 and 2024
- States we have not asked yet



# Thoughts?

- How does this guide research priorities?
    - Prevention/Biosecurity
      - Of disease
    - Preparedness
      - For a response
    - Surveillance/Traceability
      - During the response
    - Diagnostics
      - Timely/efficient
    - Duplication
      - Of supplies/resources
    - Automation
      - Of labor-intensive jobs
- 

Thank You

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