Development and Demonstration of a US Swine Health Improvement Plan (US SHIP) modelled after the National Poultry Improvement Plan

Dr. J. Tyler Holck

A national certification program for safeguarding and bettering swine health

Best time to plant a tree...

20 years ago

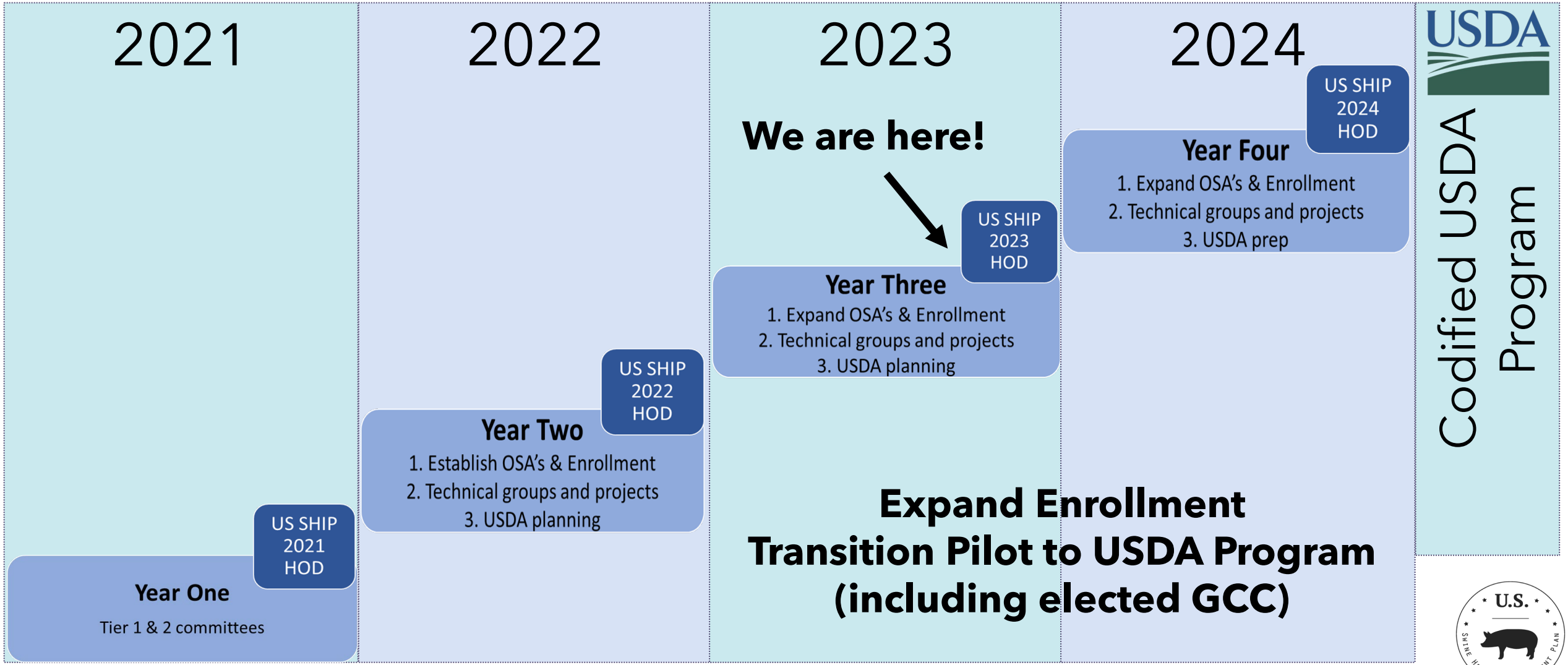
A national certification program for safeguarding and bettering swine health

Next best time to plant a tree...

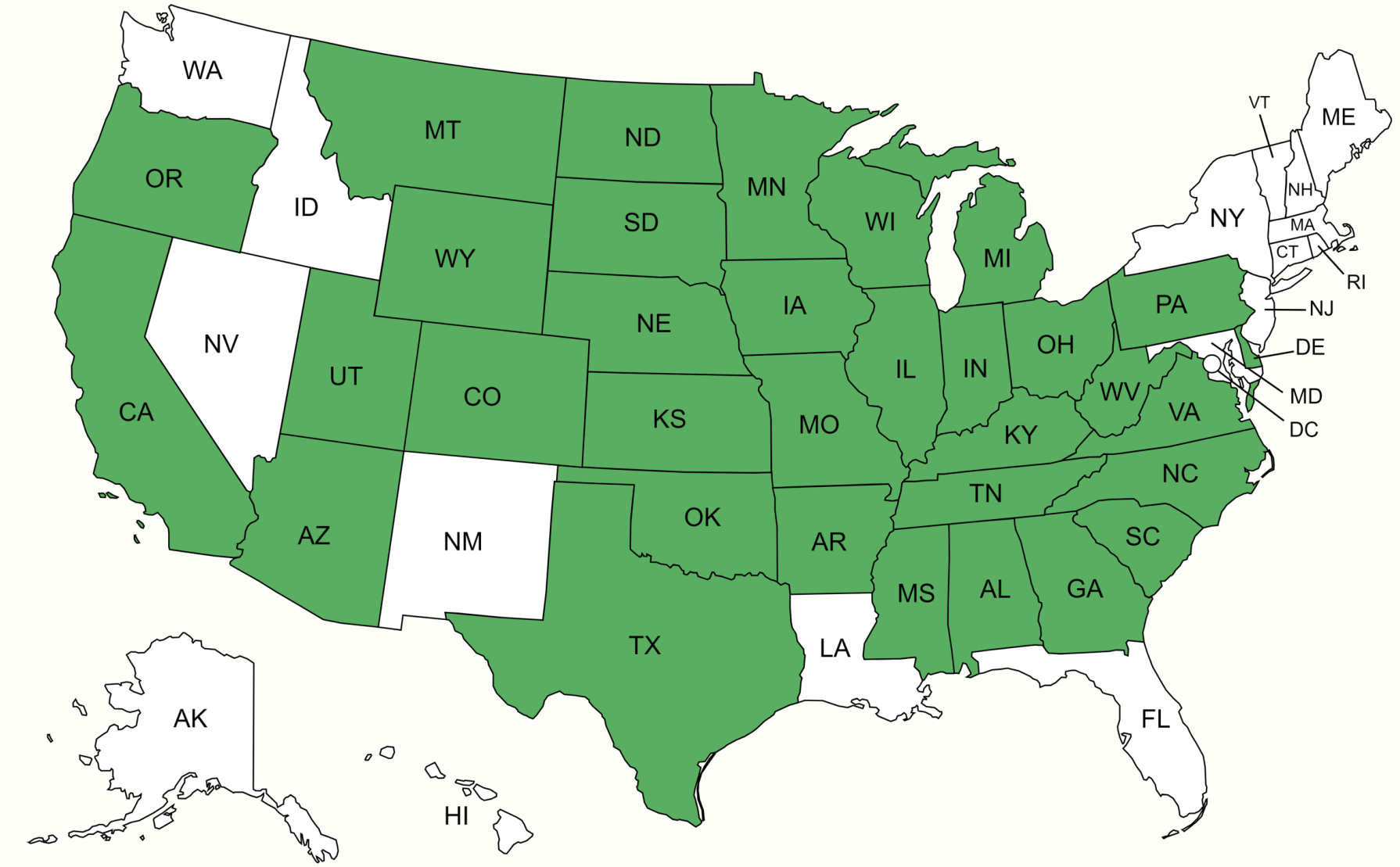
Now!

A national certification program for safeguarding and bettering swine health

Program Development Timeline



US SHIP Participation by State



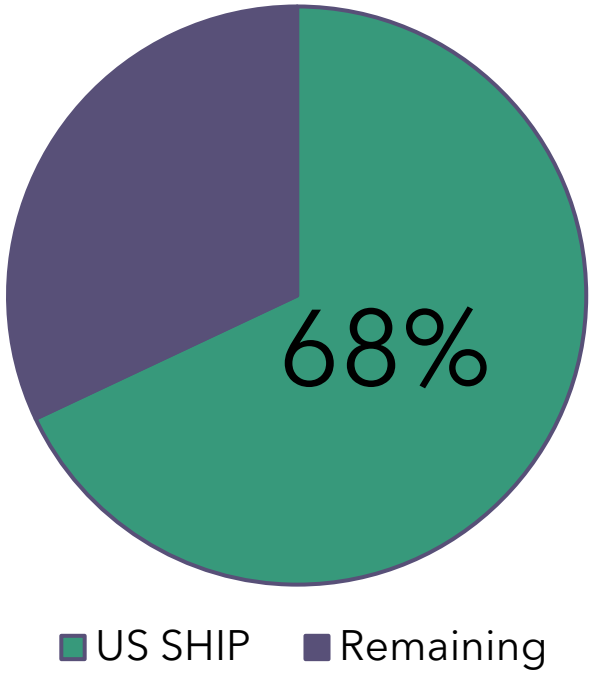
A national certification program for safeguarding and bettering swine health

Enrollment

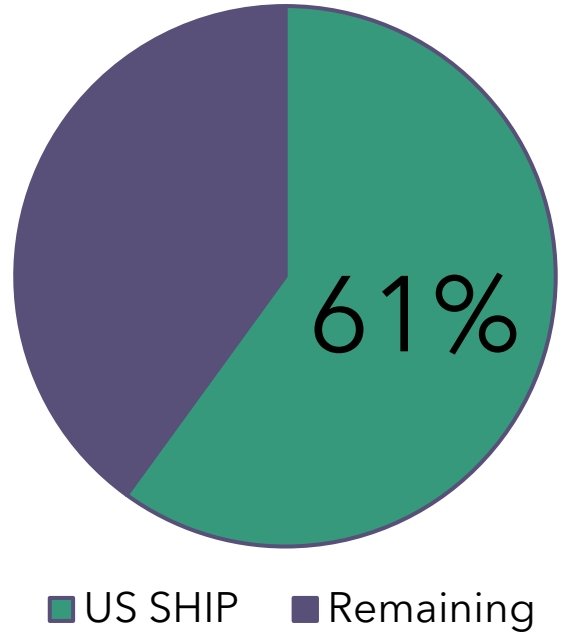
As of
July 2023

10,828 sites

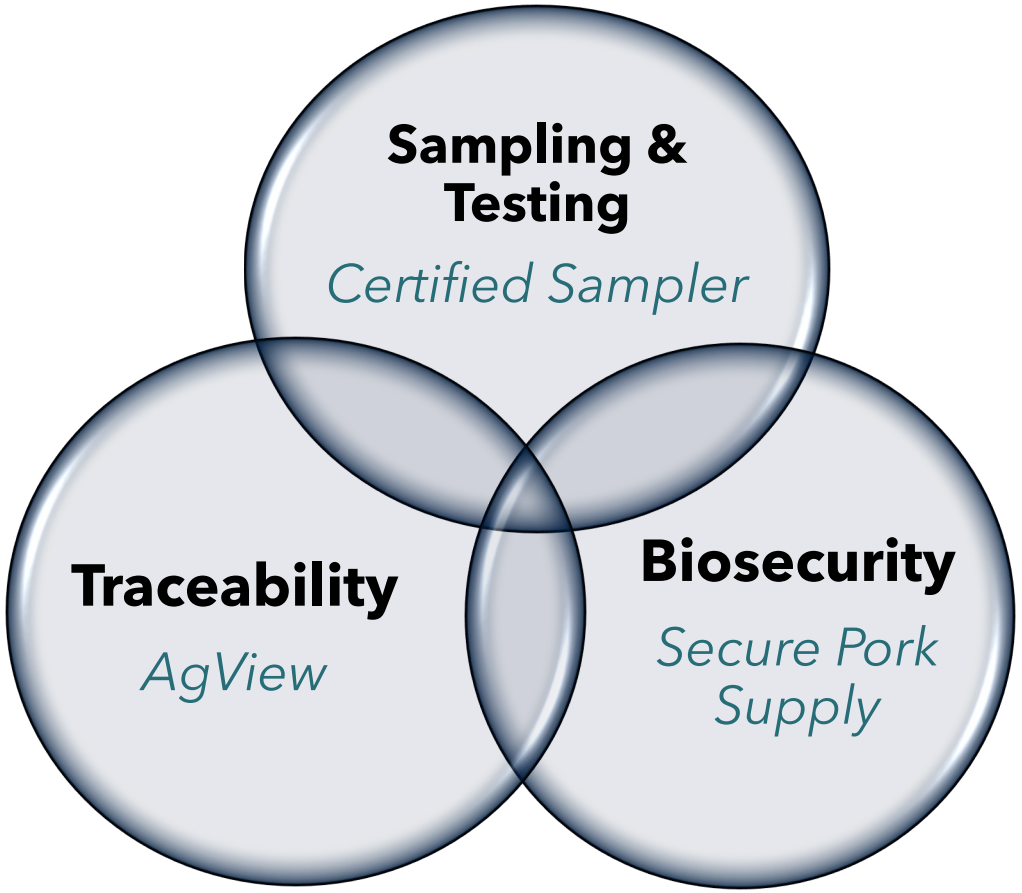
US Breeding herd (%)



US Growing pig herd (%)



National playbook for health certification



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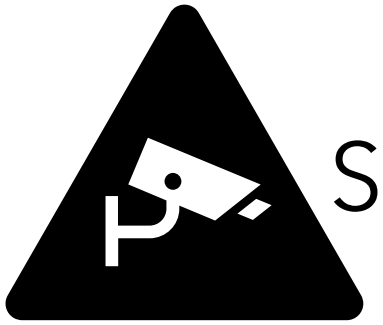
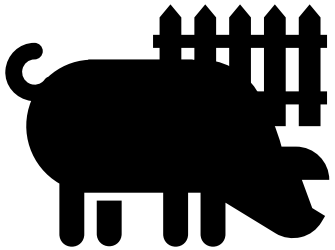
Modeled after NPIP

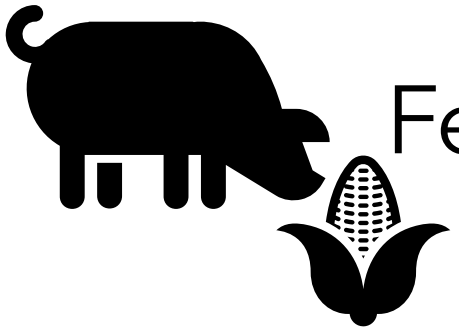
Current Working Groups



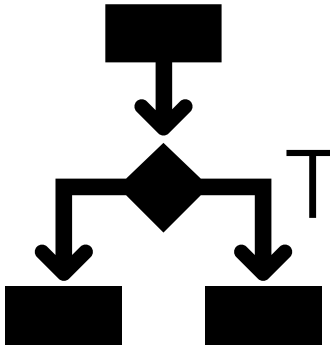
Surveillance



Site biosecurity / Feral Pig Risk Mitigation

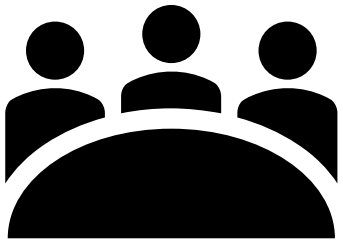


Feed Biosafety



Traceability

Market Haul Sanitation



US SHIP General Conference Committee

House of Delegates Meeting Objectives

1. Further introduce and orient interested US pork industry, state, and federal partners to US SHIP
2. Review, discuss, and vote upon proposed updates to US SHIP Program Standards and a series of Resolutions

   Provide input towards US SHIP program content, direction, and determine additional items of high relevance to US swine health and foreign animal disease preparedness
3. Elect your new, 9-member GCC governing board

GCC Nominees*

***Election at 2023 House of Delegates Meeting**

- **At – large**
  - Kelli Werling (IN)
  - Ryan Pudenz (IA)
- **At – large exhibition**
  - Ben Schmaling (IA)
  - Daniel Hendrickson (IN)
  - Jesse Heimer (MO)
- **At – large packer**
  - Katherine Stack (Wholestone)
  - Mindy Henry (Tyson)

- **Region 1 – North Atlantic**
  - Don Davidson (OH)
- **Region 2 – East Central**
  - AV Roth (WI)
- **Region 3 – North Central**
  - Mike Walker (MN)
  - Nick Bundermann (ND)
  - Shane Odegaard (SD)
- **Region 4 - Central**
  - Mike Paustian (IA)

- **Region 5 – South Atlantic**
  - Mary Battrell (NC)
- **Region 6 – West**
  - Christine Mainquist-Whigham (NE)

Plurality Vote (used by NPIP and confirmed by US SHIP GCC WG)

- The number of votes received by the winning candidate is more than any other candidate

House of Delegates Agenda

10:15

General Technical Session

Industry, State, & Federal Partnership

Thank you to our partners!

Welcome to Minnesota

A national certification program for safeguarding and bettering swine health

US SHIP HOD 2022
Approved Governance Resolution #6

- The US SHIP House of Delegates requests the commissioning of a working group to further develop and clarify plans for the governance of US SHIP. This working group is to include the current US SHIP GCC, one individual appointed by each of the national pork industry associations (i.e. NPPC, NAMI, AASV, and show pig industry), and six representatives of pork producing entities appointed by state pork associations with preference to producers. This group's work will include:

1. Clearly defining the role and responsibilities of the elected US SHIP GCC,
2. Determining the formation of the GCC including the number of members, and their representation,
3. Establishing the terms of service for a US SHIP GCC member,
4. Clarify the transition to formal Technical Advisory Committees and propose the core topics/disciplines,
5. Clarify US SHIP GCC working relationship with the Technical Advisory Committees and the US SHIP staff,
6. Initiating steps necessary to establish the US SHIP GCC as Federal Advisory Committee,
7. Nominate candidates with an interest in serving in the first-slate of elected US SHIP GCC members in 2023.
8. Serve as the US SHIP GCC until elections are completed at the US SHIP HOD in 2023.

US SHIP – General Conference Committee (GCC) Working Group

Craig Anderson, SD – NPPC	Phil Borgic, IL – Borgic Farms	Matt Davis, OH – Hord Livestock	Bret Marsh, IN – IN State Vet	Rodger Main, IA – ISU VDL
Miriam Martin, TX – NAMI	Jeremy Pittman, VA – AASV	Lisa Rochette, NC - USDAAV	AV Roth, WI – Roth Feeder Pig	Beth Thompson, SD – SD State Vet
Mike Tripp, OK – NSR	Abby Vennekotten, NC – Prestage Farms	Mike Walker, MN – Christensen Farms	Tom Wetzell, MN – NPB consultant	Noel Williams, IA – Iowa Select Farms
		Al Wulfekuhle, IA – GW Pork		

GCC approach to resolution objectives

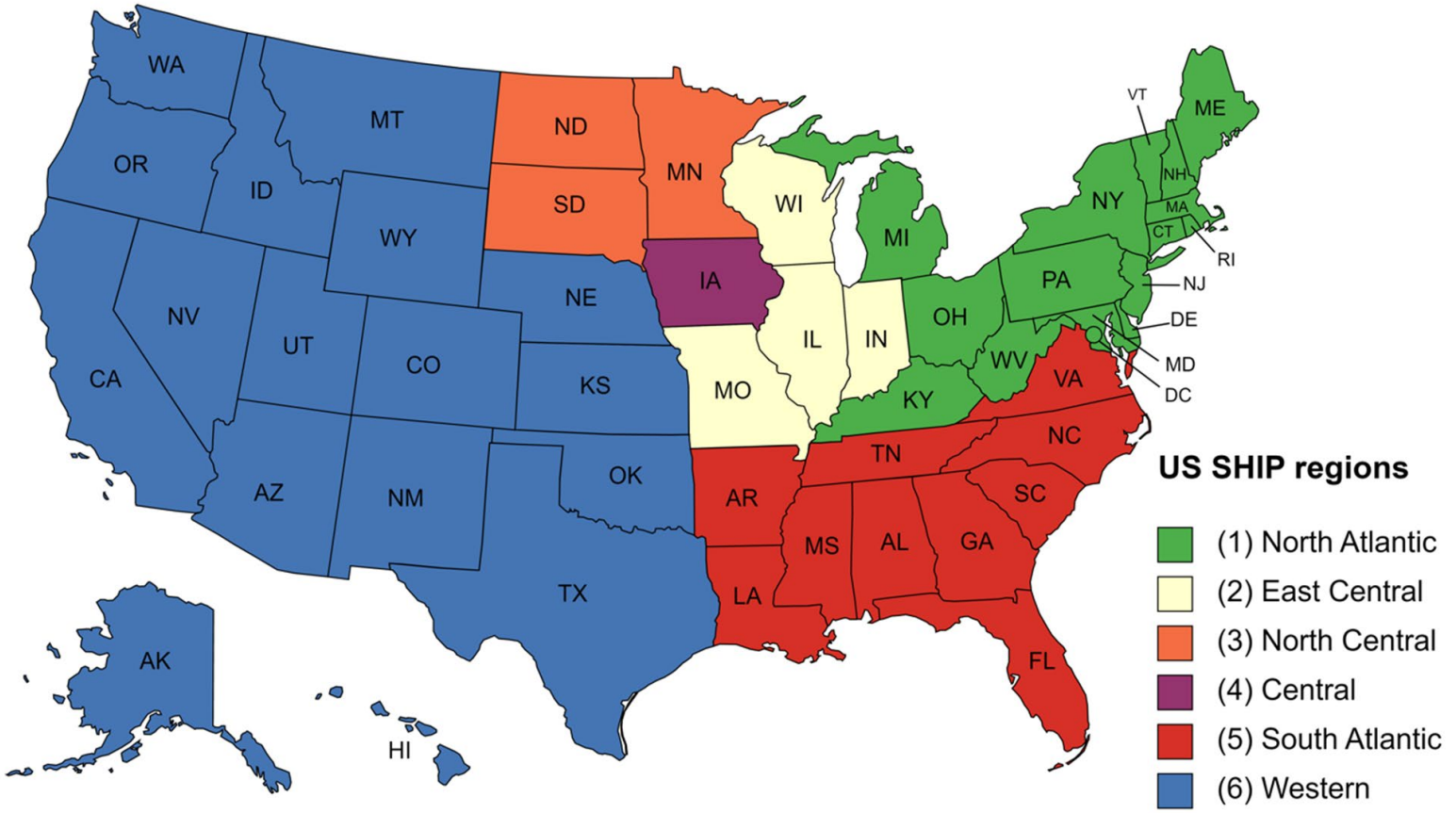
- Oct-Nov 2022 – 3 zoom informational meetings including discussion with past & present NPIP GCC members
- Dec 20-21 – in-person meeting in Ames – membership decisions including regions and terms
- Jan, Apr – 2 zoom meetings addressing USDA language questions
- June 9 – in-person meeting at WPX – review all proposed standards and resolutions as well as GCC nominees for HOD 2023
- Aug – final zoom meeting in preparation for HOD 2023

General Conference Committee membership

- US SHIP – est. 2020
- 9 GCC voting members
  - 6 regional members
  - 1 at-large member
  - 1 slaughter facility member
  - 1 non-commercial/small holdings
- 0 GCC alternate members
- 3-year term of service
- No term limits

- NPIP – est. 1935
- 7 GCC voting members
  - 6 regional members
  - 1 at-large member
- 6 GCC alternate members
- 4-year term of service
- No term limits

US SHIP Regions



Nominations

- All nominations to be submitted to US SHIP staff and/or GCC member
  - No later than 90 days prior to the HOD at which elections will be held
- Confirmed candidates will be updated on the US SHIP website
- Final list of candidates and bios will be provided in US SHIP HOD 2023 proceedings for review prior to the meeting

Proposed CFR Language

- Insert CFR Language

Proposed Standard 2023-1 (pg20)

Establishment of the US SHIP technical committee

- Delegates will be voting to approve a standing technical committee with biosecurity, traceability, and surveillance sub-committees modelled after NPIP.

Proposed Standard 2023-2 (pg22)

Percent vote to pass or amend program standard at US SHIP House of Delegates

- Currently, to adopt a new program standard or resolution, it requires >50% of the voting delegates votes. Acknowledging that program standards have significant implications to the national swine industry, delegates will be voting to require >2/3 (66.67%) approval for future standards with resolutions remaining at >50% for approval.

Proposed Standard 2023-5 (pg27)

US SHIP Official State Agencies (US SHIP OSA) requirement to report and keep the status of the US SHIP certifications held by the participating sites current in the US SHIP Site Status Verification Database

- If approved this will require OSA's to submit the PIN for all US SHIP certified sites in their states to allow for an easily accessible way to verify the current list of certified sites. Detailed information (address ect.) will NOT be shared in the database and will remain with the OSA.

Proposed Resolution 2023-2 (pg40)

Establishment of a US SHIP Exhibition Swine Working Group that centers on developing a well-informed and sustainable (long-term) strategy for engaging and encouraging participation among the exhibition swine community.

- Proposed formation of a new working group focused on outreach, awareness, and engagement strategies for the exhibition swine segment of our industry. Having all sectors of the swine industry engaged in US SHIP is critical and this group will target increasing participation of the exhibition swine sector.

US Swine Health Improvement Plan

Scope and Purpose

&

Looking Forward

2023 US SHIP House of Delegates

R Main

A national certification program for safeguarding and bettering swine health

International Trade and Implications for the U.S. Swine Health Improvement Plan (U.S. SHIP)

September 6, 2023

Regionalization Evaluation Services
Veterinary Services
Animal and Plant Health Inspection Service

National veterinary authority goals in international trade

- Facilitate international trade

- Prevent the introduction of dangerous and costly pests and diseases

Regulate the import and export of animals, animal products, and biologics

Safe trade during disease outbreaks

Tools to mitigate trade impacts:

- Regionalization
- World Organization for Animal Health (WOAH) guidelines

Ultimately: The importing trading partner determines its import restrictions and can modify them during an outbreak.

Critical: Trust and transparency between trading partners

- Regular sharing of disease outbreak and response information
- Prompt responses to questions
- Sharing information when disease response activities deviate substantially from expected actions or policies
- Audits

U.S. has an excellent highly pathogenic avian influenza emergency response track record.

African swine fever (ASF) has never occurred in the United States and some countries will want to see U.S. in action before they agree to regionalize.

Trading partners need to trust us to be able to…

- Quickly detect disease outbreaks.
- Quickly inform trading partners of outbreaks.
- Not export diseased animals or contaminated products.
- Not export meat or other products derived from swine originating in trade restricted zones.
- Notify trading partners of potentially exposed animals or products.
- Implement our emergency response plans.

Types of information trading partners request:

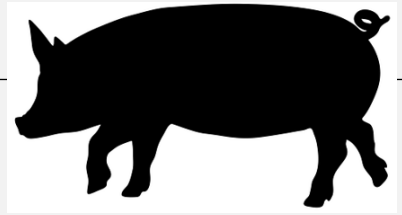
- Regulatory authority.
- Personnel and financial resources.
- Emergency response plans, policies, and procedures.
  Applied equally across all States?
- How are risks from wildlife, feral animals, and non-commercial animal production and movements addressed?
- Laboratory capacity, reliability, and turn-around time.
- Testing: Types, number of testing rounds, timing.

Types of information trading partners request: Control and surveillance zones

- Planned zone sizes; appropriate to disease type?
- Ability to maintain a different zone size if required by trading partner?
- Policing of zone borders to prevent illegal movements.
- Permit requirements for moving animals and products from an affected zone.
- Monitoring of permitted movement from control zones.
- Testing required for release affected zones or premises.
- Ensuring that animals, products, and byproducts originating from affected zones are not exported.
- Sufficient resources for effective zoning.

Practices that can negatively impact international trade

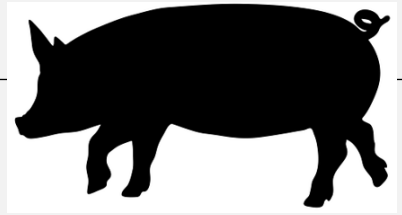
- Industry practices that increase the likelihood that ASF will be found initially in more than one State or zone.
- Most commercial swine being slaughtered in one State.
- Lack of traceability of animals, products, and byproducts originating from restricted areas or coming from affected farms.
- Lack of ability to trace or restrict product post-slaughter facility.



How U.S. SHIP can help

Standards (traceability, biosecurity, sampling, testing)
Accountability

- Build confidence in U.S. ability to meet trading partners' requirements.
- Encourage trading partners to limit size of geographic area subject to restrictions.
- Help meet WOAH criteria.
- Enable favorable responses to trading partners.
- Help limit negative impacts on international trade.

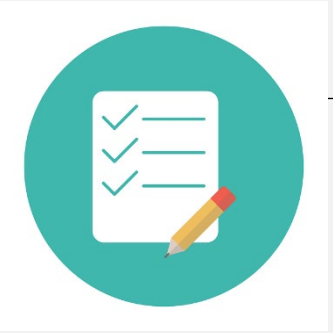


How U.S. SHIP can help, cont.

Serve as a potential platform for endemic disease health improvements in future standards:

- Some countries maintain restrictions for U.S.-endemic diseases such as porcine reproductive and respiratory syndrome.

Recap



- The importing trading partner determines its import restrictions.
- Import restrictions differ by country and can change during an outbreak.
- Trust and transparency are key.
- Trading partners want details.
- Trading partners will audit our systems.
- U.S. SHIP can help limit negative impacts on international trade.

Questions?

Dr. Bret Marsh – 2020 Howard Dunne Lecture

"Trust the People"

- "In the final analysis, the US pork industry, with significant input from the veterinary community, must determine its' own fate regarding FAD preparedness"

B Marsh
Indiana
BOAH

Dr. Bret Marsh – 2020 Howard Dunne Lecture
"Trust the People"

- "The pork industry must establish an effective national forum for the careful deliberation of these critical issues and thereby engage the entire industry in the development of a national policy"

B Marsh
Indiana
BOAH

US SHIP will establish a "national playbook" of technical standards to provide a uniform approach to disease prevention, response, and recovery by of the participating states.

Modelled after the National Poultry Improvement Plan (NPIP)

US SHIP is modelled after the National Poultry Improvement Plan (NPIP), a collaborative effort involving industry, state, and federal officials providing standards for disease certification.

ASF/CSF Monitiored certification will be held at the individual site level.

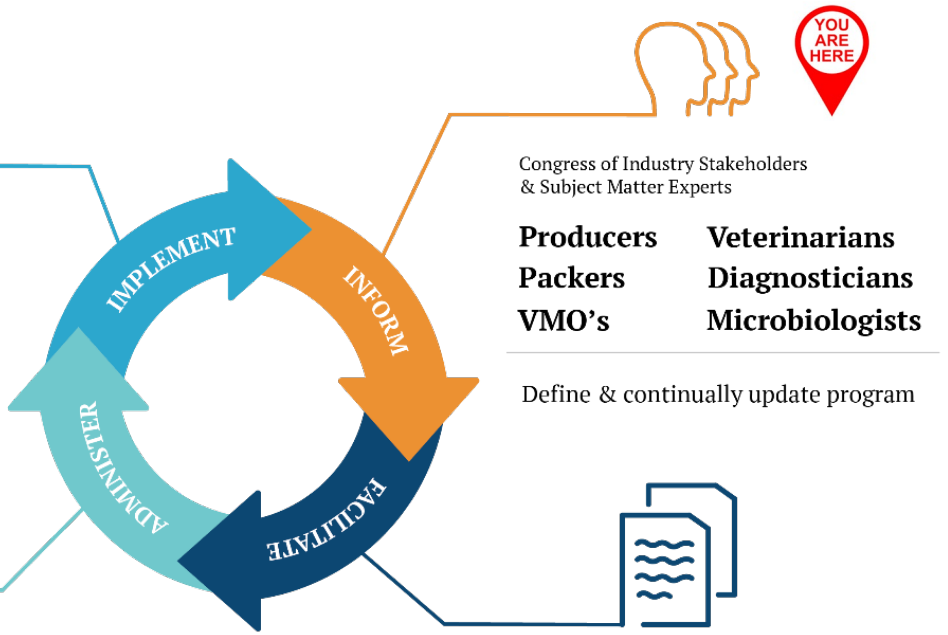
Participants:

- Farm Sites
- Slaughter Facilities

Prevention & demonstration of freedom of disease outside of control areas

ASF-CSF Monitored Certification

(Production Sites, Live Animal Marking Operations, & Slaughter Facilities)



Modeled after basic tenets of the NPIP H5/H7 Avian Influenza Monitored Certification of US Commercial Poultry Operations

A national certification program for safeguarding and bettering swine health

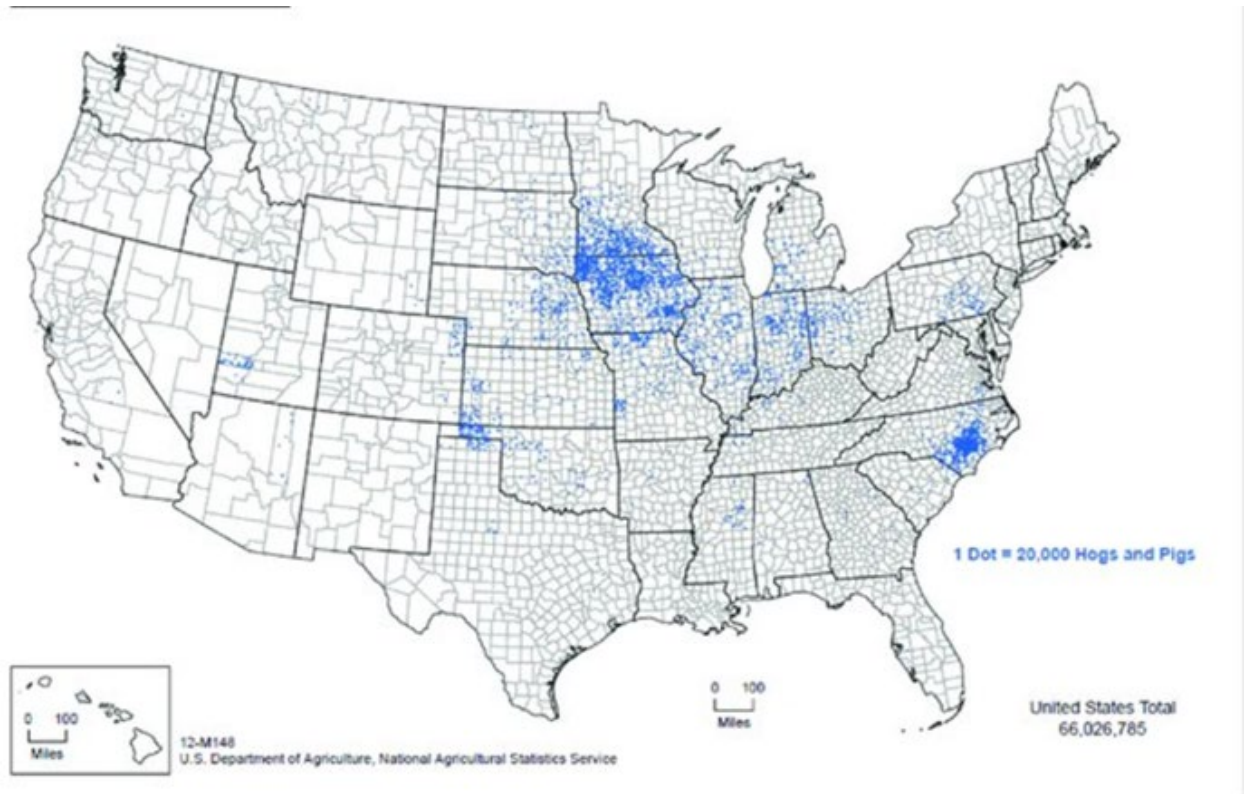
Rowing the Boat in Same Direction

Producers
Packers
States
USDA

ASF-CSF Monitored

Prevention and Demonstration of Freedom Outside Control Areas In Support of Animal Health, Commerce, & Trade

U.S.
ASF & CSF
MONITORED

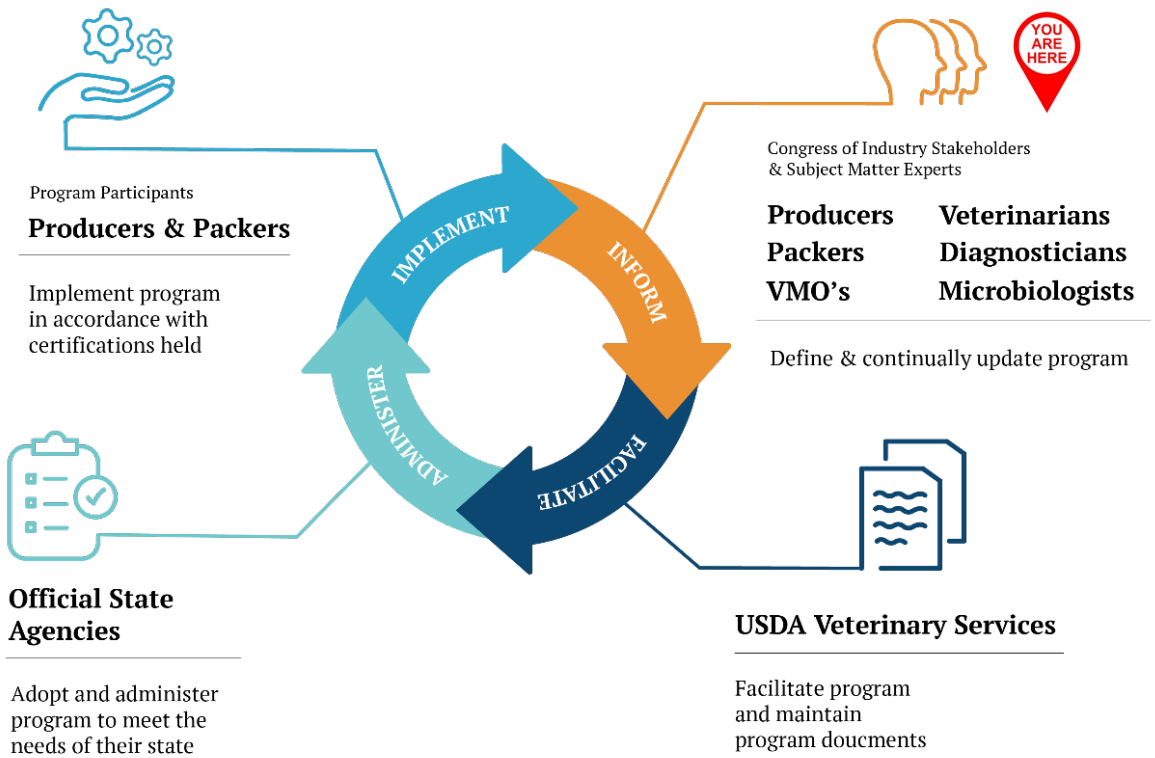


Pathway for making tangible progress in operationalizing preparedness energies across the US Pork Industry

A national certification program for safeguarding and bettering swine health

US Swine Health Improvement Plan

Partnering to safeguard, certify, and better the health of US swine and longer-term competitiveness of the US pork industry

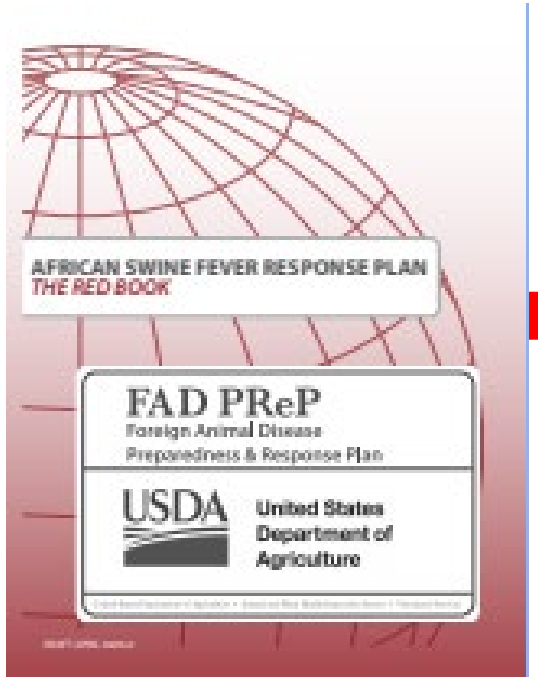


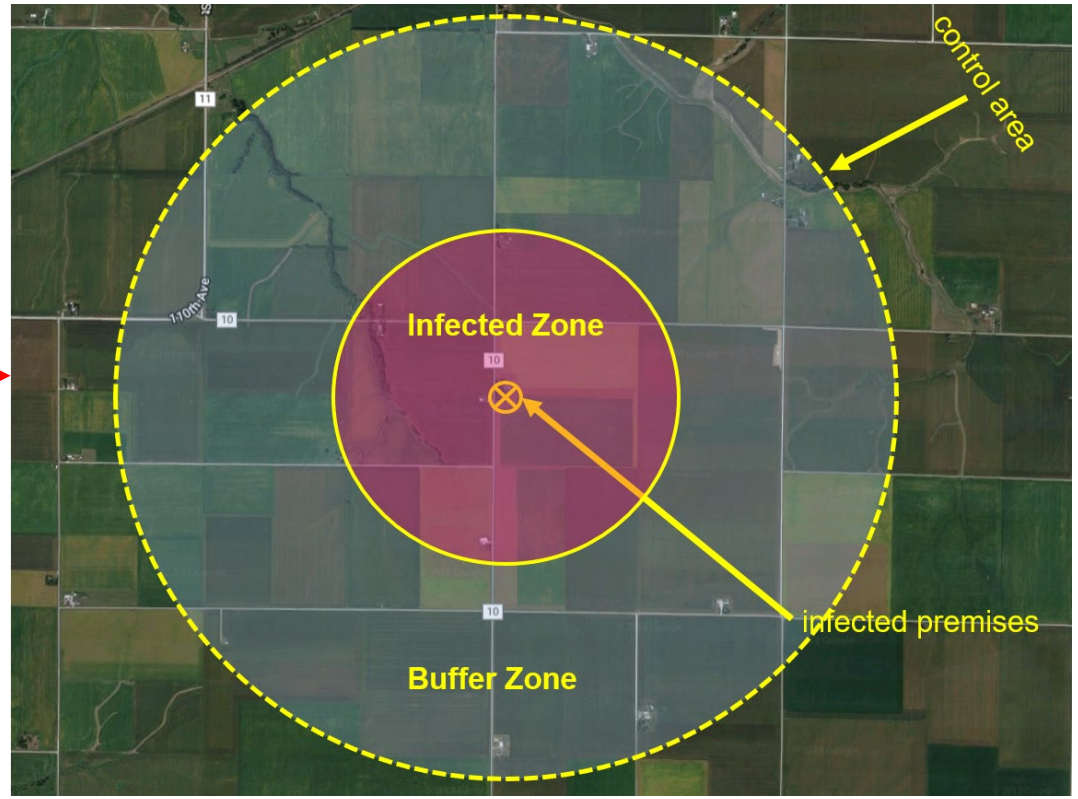
U.S. ASF MONITORED

U.S. CSF MONITORED

Officially recognized platform for addressing US swine health related issues of high consequence over time

A national certification program for safeguarding and bettering swine health



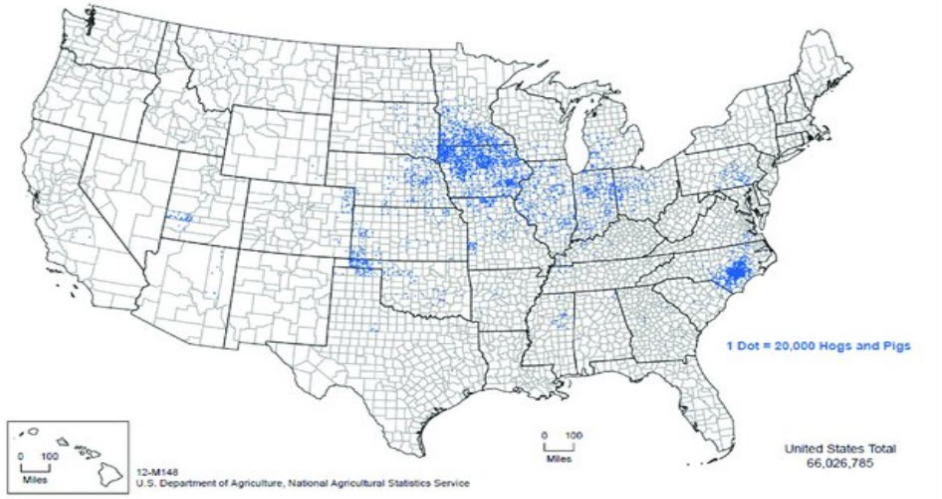


This is **Not** Within Scope of US SHIP

U.S. SWINE HEALTH IMPROVEMENT PLAN

ASF-CSF Monitored

Prevention and
Demonstration of Freedom
Outside Control Areas
In Support of Animal Health,
Commerce, & Trade



A national certification program for safeguarding and bettering swine health

Animal Health

H5/H7 Avian Influenza Monitored Program

Shell Egg Layer Flocks / Plants Approved for Export

146-E Waterfowl/Gamebird Table Egg Flocks

NPIP Approved Slaughter Plants

National Poultry Improvement Plan

U.S. H5/H7 Avian Influenza MONITORED NPIP

NPIP Approved Slaughter Plants

Requiring U.S. H5/H7 Avian Influenza Monitored

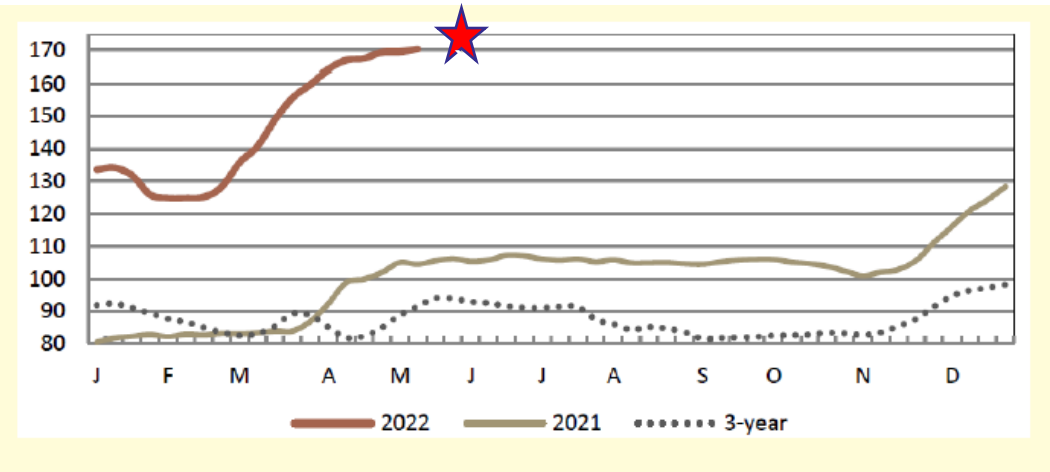
Chicken Slaughter Plants for Export to Specific Countries

Turkey Slaughter Plants for Export to Specific Countries

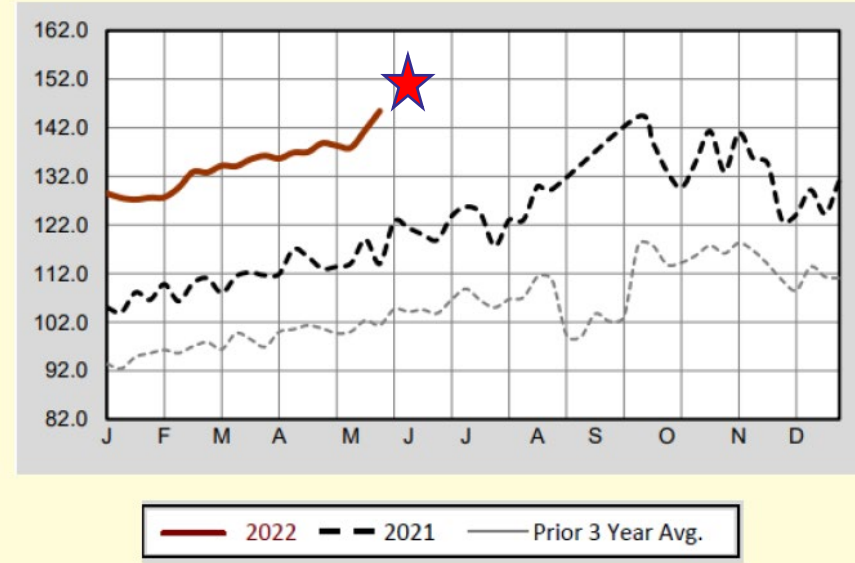
Commercial Waterfowl and Upland Game Bird Slaughter Plants for Export to Specific Countries

Amidst HPAIV Outbreak 2022

USDA – Broiler Market News



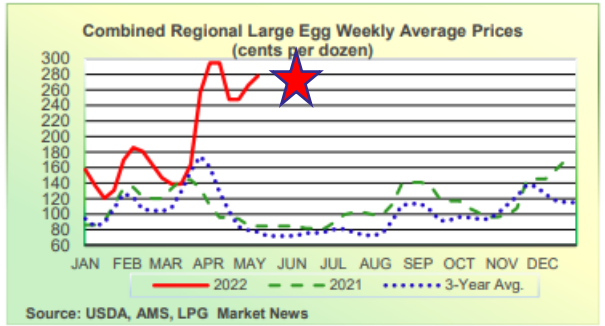
USDA – Turkey Market News



National Poultry Improvement Plan

U.S. H5/H7 Avian Influenza MONITORED NPIP

USDA – Egg Market News



★ Market price trends in 2022

What's Needed For US SHIP To Be Successful ?

Curly (Jack Palance) from the movie City Slickers, 1991

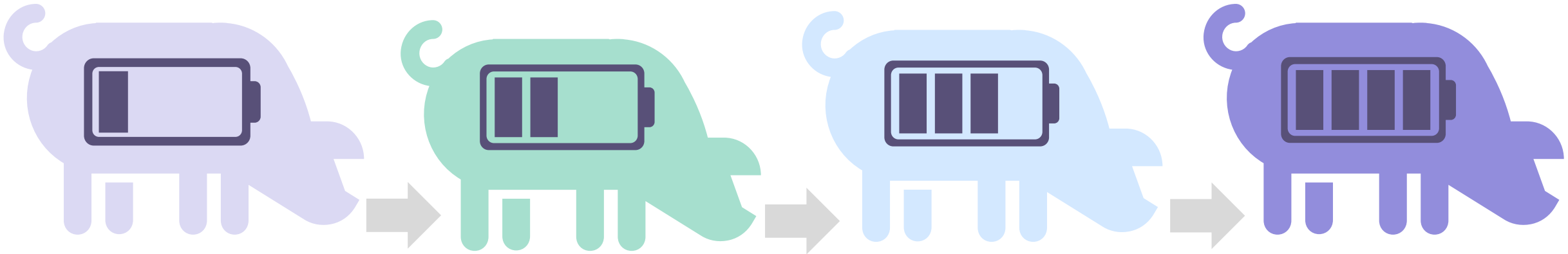
Industry Engagement

"PARTICIPATION"

1 Step = Enrollment

Participation is the critical success factor!

(US SHIP is for operations of all shapes & sizes)



Contact your Official State Agency (OSA) to get the correct State-specific forms

Complete your forms & submit the biosecurity survey

Pursue certification

Stay engaged in the process

A Very Straightforward Process

Why is Participation Rate so Important ?

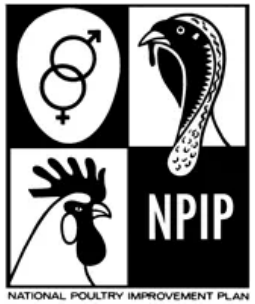
"Anyone's Status Affects Everyone Else"

&

"We're Very Good At Controlling The Diseases We Don't Have"

…. in US domestic pigs, a supply chain, region, *or country*

NPIP Participation Rate:
Breeding Poultry = 100%
Commercial Poultry = > 99%



Why is Participation Rate So Important ?

- Foundational element necessary for protecting, improving, and being able to represent the health status of all domestic pig production operations across supply chains, areas, states, and regions.

US SHIP - ASF-CSF Monitored Certification
(Initial & Baseline Certification in US SHIP)

"Everybody Program"

- Producers
  - All shapes & sizes
  - Commercial & Exhibition & Niche
- Live Animal Marketing Operations
- Slaughter Facilities

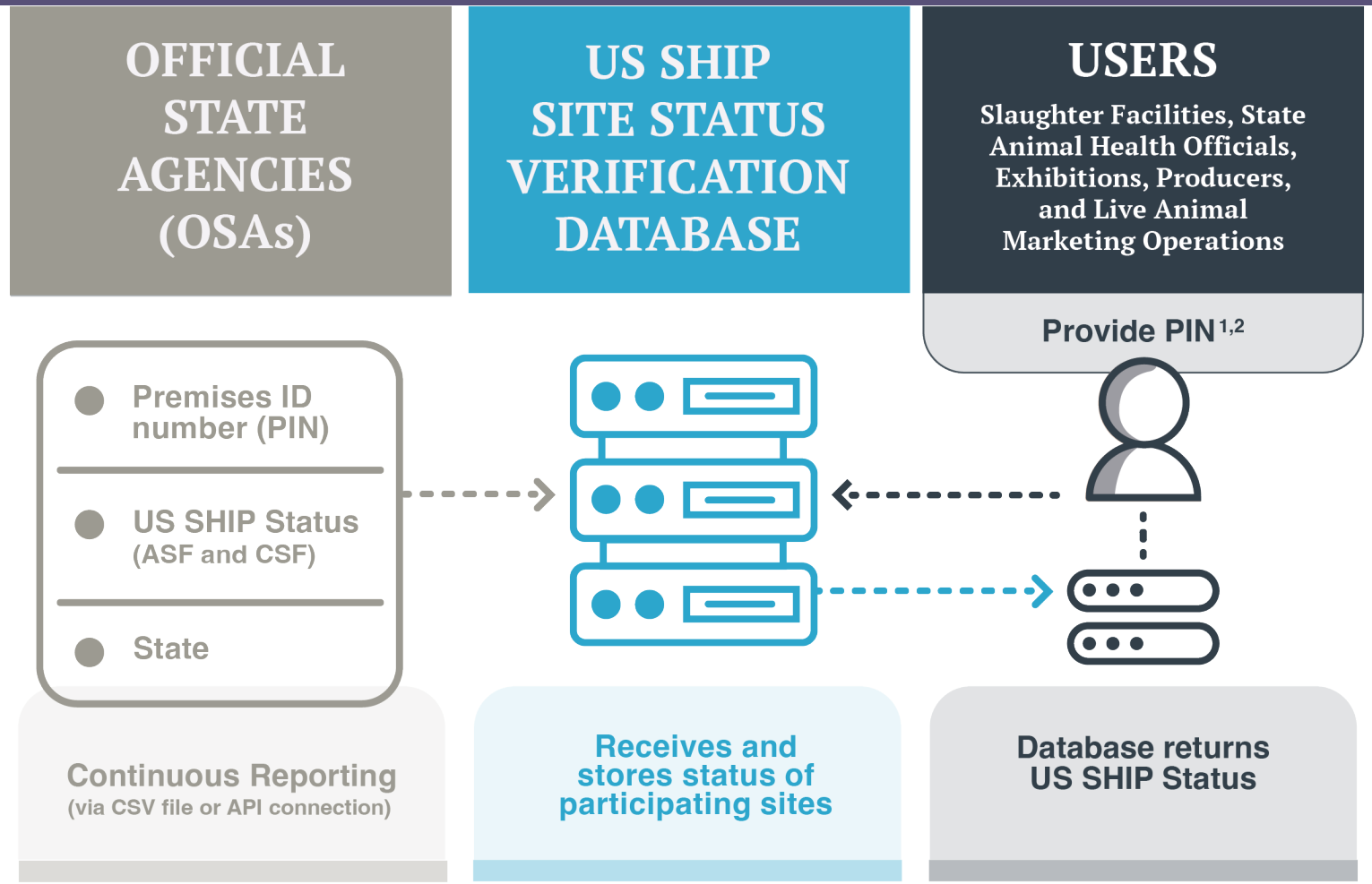
Broadly Applicable Program Standards = (Biosecurity, Traceability, & Surveillance)

Very Simple, Yet Transformational Improvement In FAD Preparedness & Ability To Certify Health Status

Production Sites, Live Animal Marketing Operations, Packers, States, or Regions

- Do I know where the pigs are located, or where they came from ?
  - Aim of US SHIP Traceability Requirements
  - Provides Business Use Case to Keep Each State's Premises Database Current
- Do I know something about their health status?
  - Aim of US SHIP Certification
  - Readily Confirmed with PIN# at Point of Interstate Movement, Sale, or Exhibition

US SHIP Site Status Verification Database



[1] Non-Registered Users can provide one PIN and get status returned one premises at a time.
[2] Registered Users can provide multiple PINS and get status of multiple premises returned via CSV file or API connection.

Proposed Program Standard on Peacetime Surveillance

- Further Leverages & Improves Existing USDA ASF/CSF Active Surveillance Stream
- **Creates a System of Real-Time Data Sharing and Connectivity**
  - VDLs
  - USDA Laboratory Management System
  - US SHIP Site Status Verification Database
  - SAHOs & US SHIP OSAs
- Provides A Clear "Peacetime Surveillance Story" to Share
- No Additional Costs to Participants

US SHIP - ASF-CSF Monitored Certification
(Initial & Baseline Certification in US SHIP)

"Everybody Program"

- Producers
  - All shapes & sizes
  - Commercial & Exhibition & Niche
- Live Animal Marketing Operations
- Slaughter Facilities

"Very Simple , Yet Provides Transformational Change in FAD Preparedness"

Broadly Applicable Program Standards = (Biosecurity, Traceability, & Surveillance)

National Program For Certifying Health of US Swine

Modeled after NPIP (Industry, State, & Federal Partnership)

USDA

=

U.S.
ASF & CSF
MONITORED

Initial / Baseline US SHIP Certification

=

Prevention & Pathway in Support of Interstate Commerce & Resumption of International Trade

Goals & Expectations of US SHIP

(Industry, State, & Federal Partnership)

- ↑ Breadth & Depth Industry Engagement / Participation
- USDA codified program (similar to NPIP)

1st Step

- **Step-Change in FAD preparedness**

- Harmonize and modernize the systems used for permitting interstate movement of animals for further breeding, growing, or exhibition.

2nd Step

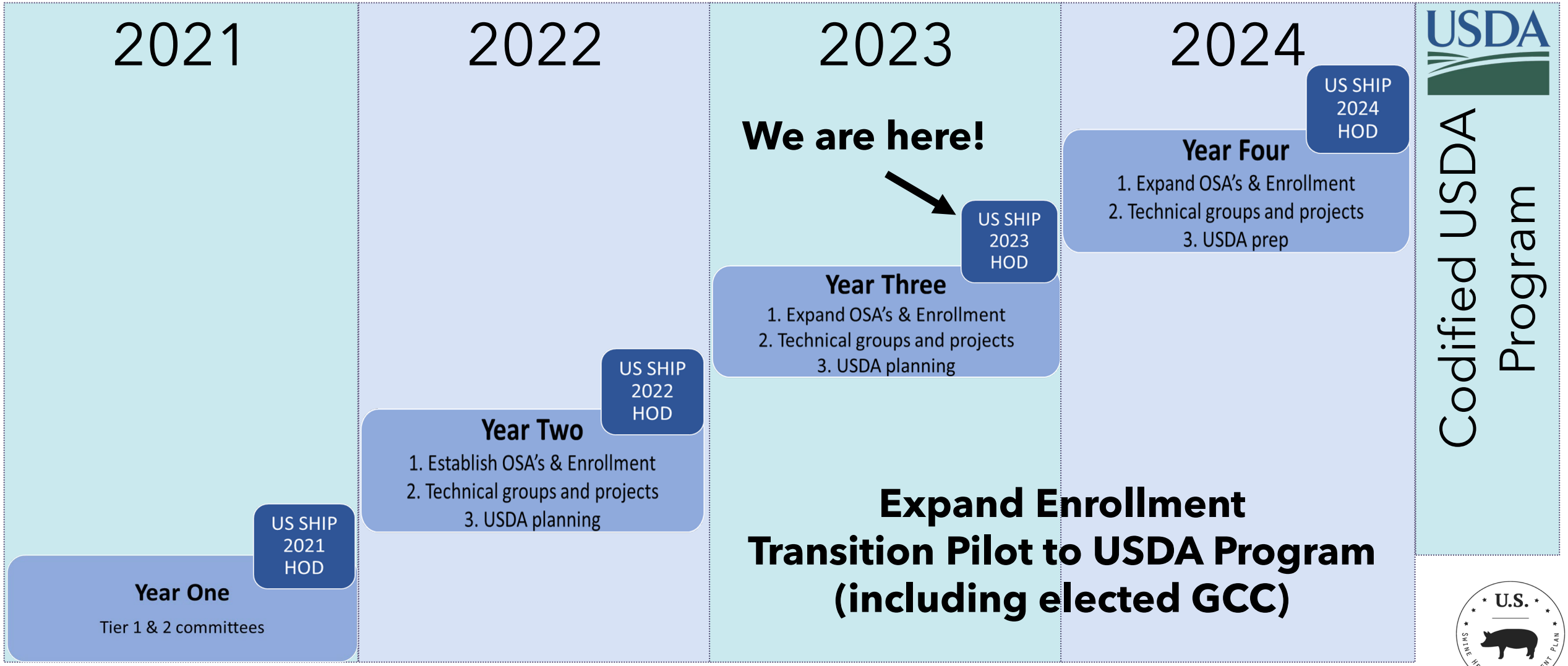
- Internationally recognized by key trade partners

3rd Step

- **Sustainable platform for safeguarding, certifying, and bettering the health of US Swine**

Ongoing

US SHIP Development Timeline



"It Takes a Village"

(Industry, State, Federal, & Academia Partners)

- **Industry Participants**
  - Producers, Live Animal Marking Operations, & Slaughter Facilities
- **US SHIP Official State Agencies & SAHOs**
- **USDA**
  - US SHIP Program Administration
    - ***Senior Coordinator***, Veterinary Coordinator, Support Staff, & ***General Conference Committee***)
  - USDA Swine Health Team
  - Strong Support Across USDA APHIS

Special Acknowledgement US SHIP GCC Nominees

Regional GCC Member Nominees

* Don Davidson (North Atlantic)
* Howard (AV) Roth (East Central)
* Nick Bundermann (North Central)
* Shane Odegaard (North Central)
* Mike Walker (North Central)
* Mike Paustian (Central)
* Mary Battrell (South Atlantic)
* Christine Mainquist – Whigham (Western)

At –Large GCC Member Nominees

Slaughter Facility Member:

* Mindy Henry
* Katherine Stack

Exhibition Swine Member:

* Jesse Heimer
* Daniel Hendrickson
* Ben Schmaling

Unrestricted / Non-Specified:

* Ryan Pudenz
* Kelli Werling

Industry Participant Leadership In US SHIP Program Administration is Foundational to US SHIP

Personal Thanks US SHIP Development Team

US SHIP Program Staff:
Tyler Holck, Senior Program Coordinator
Leticia Linhares, Veterinary Coordinator
Giovani Trevisan, Veterinary Diagnostic and Epidemiologic Information

Consulting Support (Communications):
Jamie Eggers (IA) and Katlyn Gradert (IA)

USDA Swine Health:
Lisa Rochette, Nicki Humphrey, Cody Egnor, & Lydia Carpenter

Collaborating Investigators:
J Christopher-Hennings (SDSU), J Gebhardt (KSU), J Lowe (UIUC), C Rademacher (ISU), J Roth (ISU), M Torremorell (UMN), J Torrison (Longhorn Vaccine & Dx), G Trevisan, & J Zimmerman (ISU)

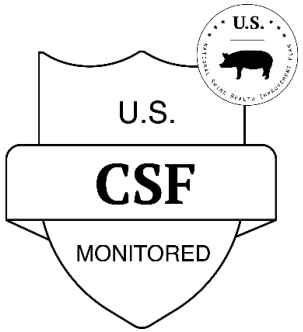
Interim US SHIP GCC:
C Anderson (SD), P Borgic (IL), M Davis (OH), R Main (IA), B Marsh (IN), M Martin (TX), J Pittman (NC), L Rochette (NC), AV Roth (WI), B Thompson (SD), M Tripp (OK), T Wetzell (MN), M Walker (MN), N Williams (OK), & A Wulfekuhle (IA).

More Than 200 Contributors To Technical Working Group Contributors / Pilot Project Participants:

Partnering to safeguard, certify, and better the health of US swine and longer-term competitiveness of the US pork industry

US Swine Health Improvement Plan

- ***Informed by Industry Stakeholders***
- ***Facilitated by USDA***
- ***Administered by States***
- ***Pulled through by Producers, Packers, States, & Exhibitions***



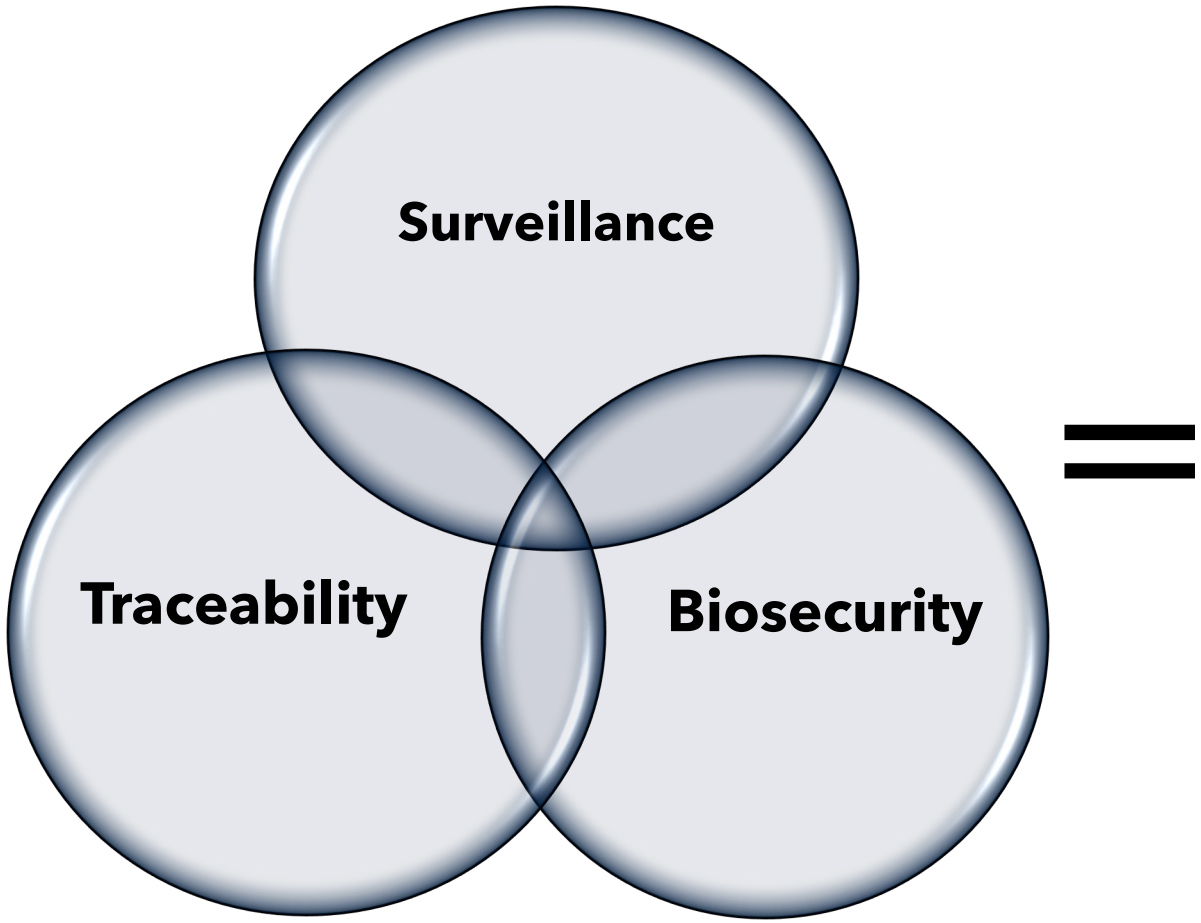
Well tested model for safeguarding, certifying, and bettering animal health

Development and Demonstration of a US Swine Health Improvement Plan (US SHIP) modelled after the National Poultry Improvement Plan

General Technical Session

A national certification program for safeguarding and bettering swine health

National playbook for health certification



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U.S. SWINE HEALTH IMPROVEMENT PLAN

A national certification program for safeguarding and bettering swine health

US SHIP

Standard vs Resolution

Standard:

Requirement to be met or exceeded by enrolled producer and packer sites **to be certified** in the US SHIP pilot as approved by majority vote at the US SHIP House of Delegates.

Resolution:

Charge to pursue initiatives or further explore specific issues that aim to further inform US SHIP program content and direction as approved by majority vote at the US SHIP House of Delegates.

Technical Breakouts and Banquet

Wednesday 1:30 pm

Traceability - Edina

Site biosecurity and feral pigs - Bloomington

Feed biosafety – Veranda 1-4

Wednesday 3:30 pm

Surveillance - Edina

Packer & live animal marketing - Bloomington

Live haul sanitation – Veranda 1-4

Governance – Veranda 5-8

Wednesday 6:30 pm

Banquet – Ballroom

A national certification program for safeguarding and bettering swine health

Industry, State, & Federal Partnership

Thank you to our partners!

US SHIP Biosecurity Technical Committee Overview

Montse Torremorell, DVM, PhD

University of Minnesota

Biosecurity key to US SHIP success

- Biosecurity is central to protecting from the introduction of ASF and CSF into the country
- Goals of Biosecurity standards:
  - Mitigate risks of ASF/CSF introduction into the country – Prevention!
  - Enhance FAD preparedness and reduce impact of endemic diseases of high consequence through sustainable standards/practices that mitigate disease spread into and between farms
  - Mitigate risks of disease spread within and from points of concentration and sales

Biosecurity Standards & Resolutions

- Five current standards:
  - Feed supply
  - Personnel
  - Enrollment survey (biosecurity practices)
  - Feed biosafety
  - Secure pork supply site plans
- Four resolutions approved at HOD 2022:
  - Establish standing feed biosafety working group
  - Responsible imports program pilot demonstration
  - Mitigating risks of feral swine
  - Market haul sanitation monitoring, best practices, education and research needs

Biosecurity working groups

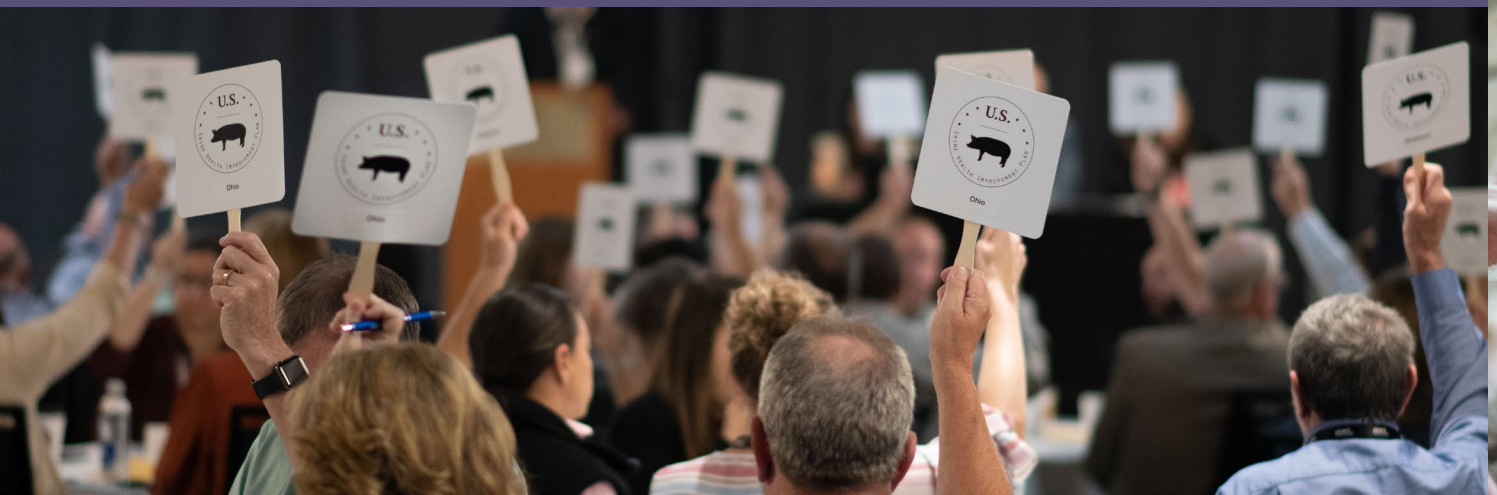
- Site Plans: To provide recommendations to integrate Secure Pork Supply (SPS) Plans into US SHIP and broadly applicable biosecurity practices *(Chris Rademacher)*
- Feed Biosafety: To provide recommendations on risks associated with disease introduction via feed to have a feed biosafety plan recognized nationally *(Jordan Gebhart)*
- Transportation Sanitation: To quantify standards of practice for sanitizing trailers from terminal points of concentration and obtain stakeholder sentiment *(Edison Magalhaes)*

“Biosecurity survey at enrollment”

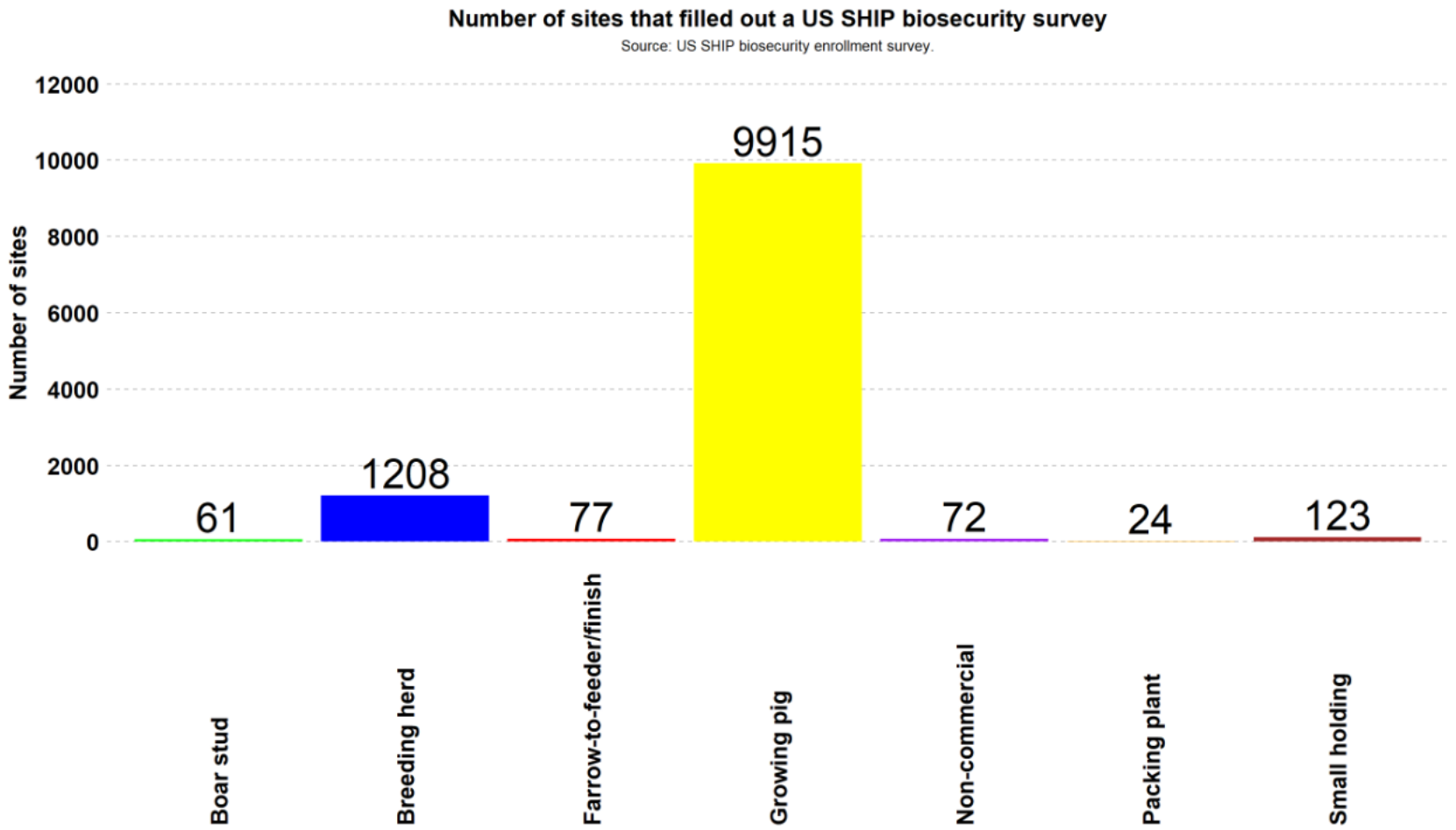
- “At enrollment, participating premises will complete a survey to provide a simplistic categorization of some of the high-level biosecurity practices being implemented at the premises. Information from this survey is to provide quantitative data to assess current standards of practice across a broad spectrum of program participants. Results will help provide insight towards consideration of additional biosecurity related program standards in the future.”
- Standard year 1

US SHIP Biosecurity Enrollment Survey Results

As of August 14, 2023

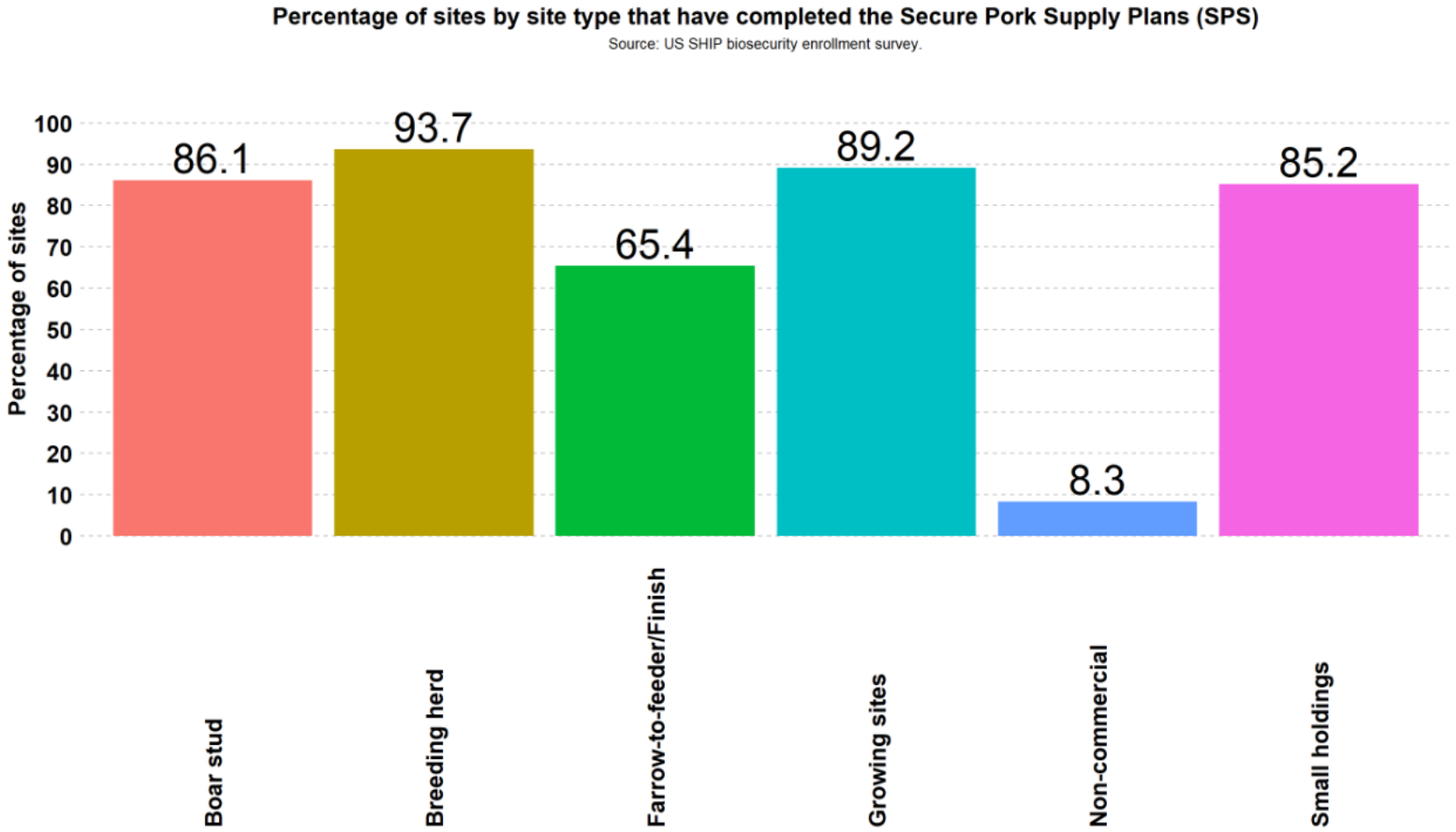


Participant demographics by site type



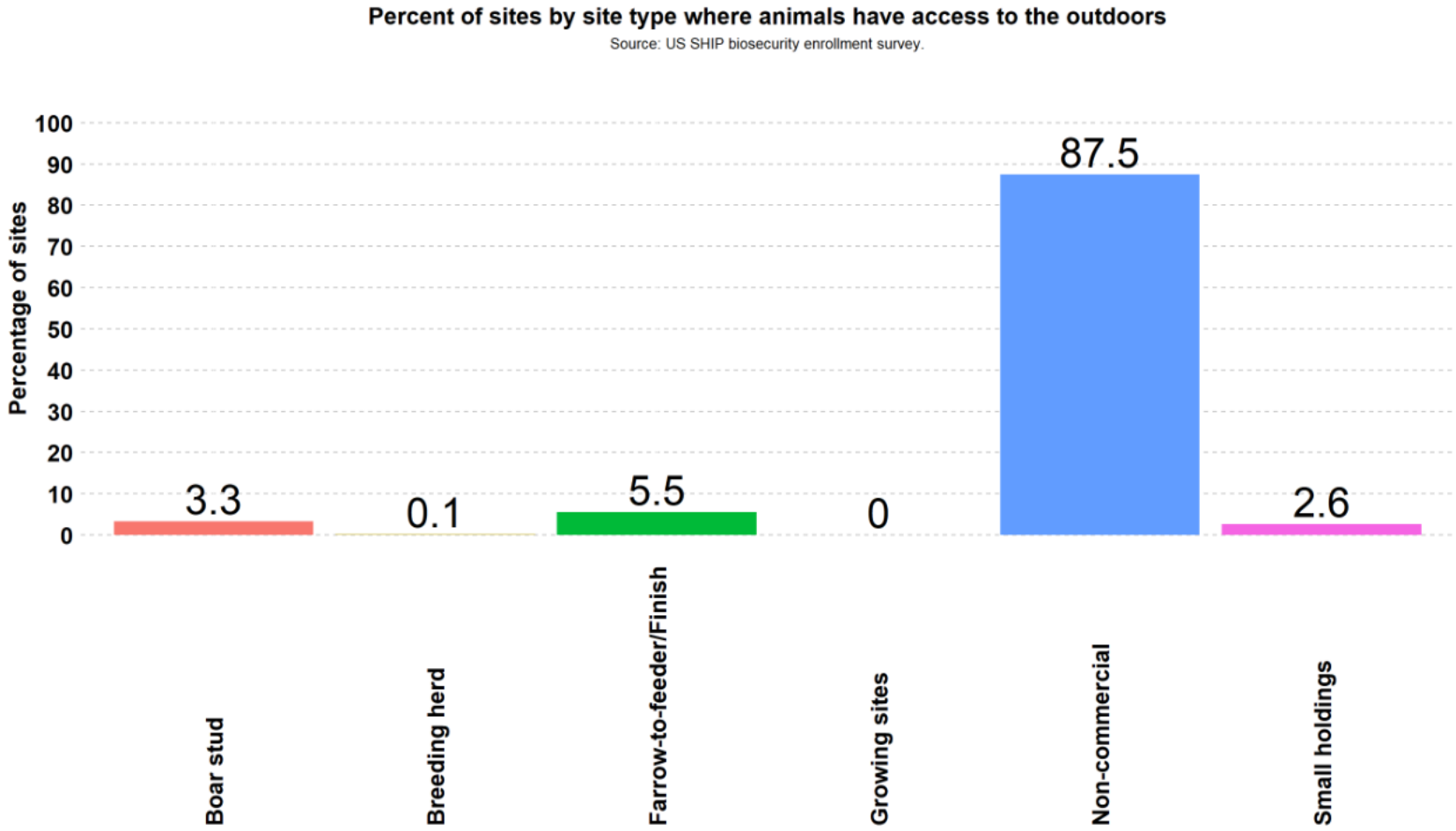
As of August 14, 2023, biosecurity surveys have been filled out for 11,480 production sites pertaining to 193 distinct swine owners distributed across 28 states.

Secure Pork Supply



As of August 14, 2023, 61 Boar stud, 1208 Breeding herd, 9915 Growing sites , 77 Farrow-to-feeder/Finish, 123 Small holdings, and 72 Non-commercial sites had filled out the biosecurity survey question related to Secure Pork Supply Plans.

Outdoor access



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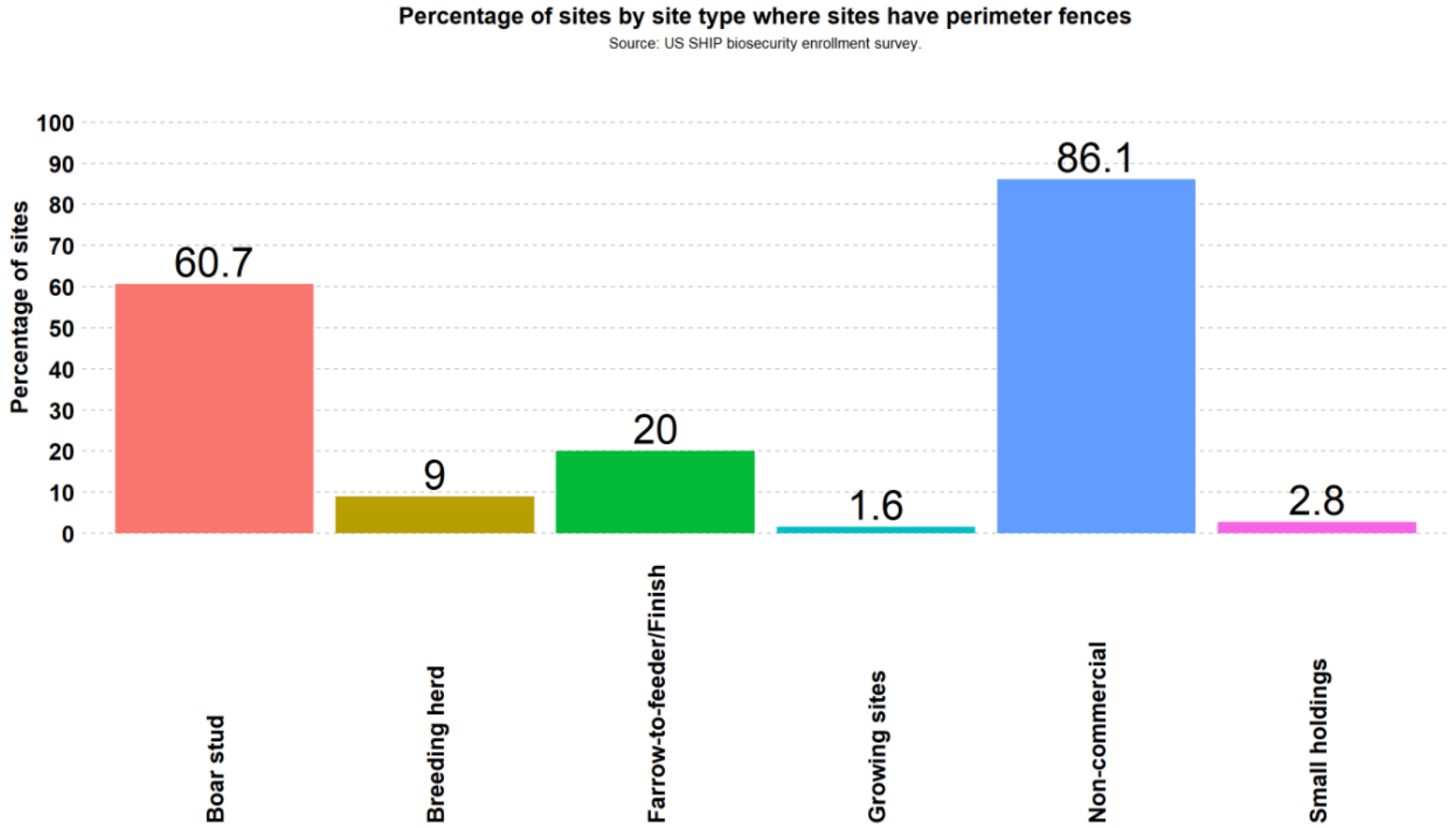
Perimeter fences



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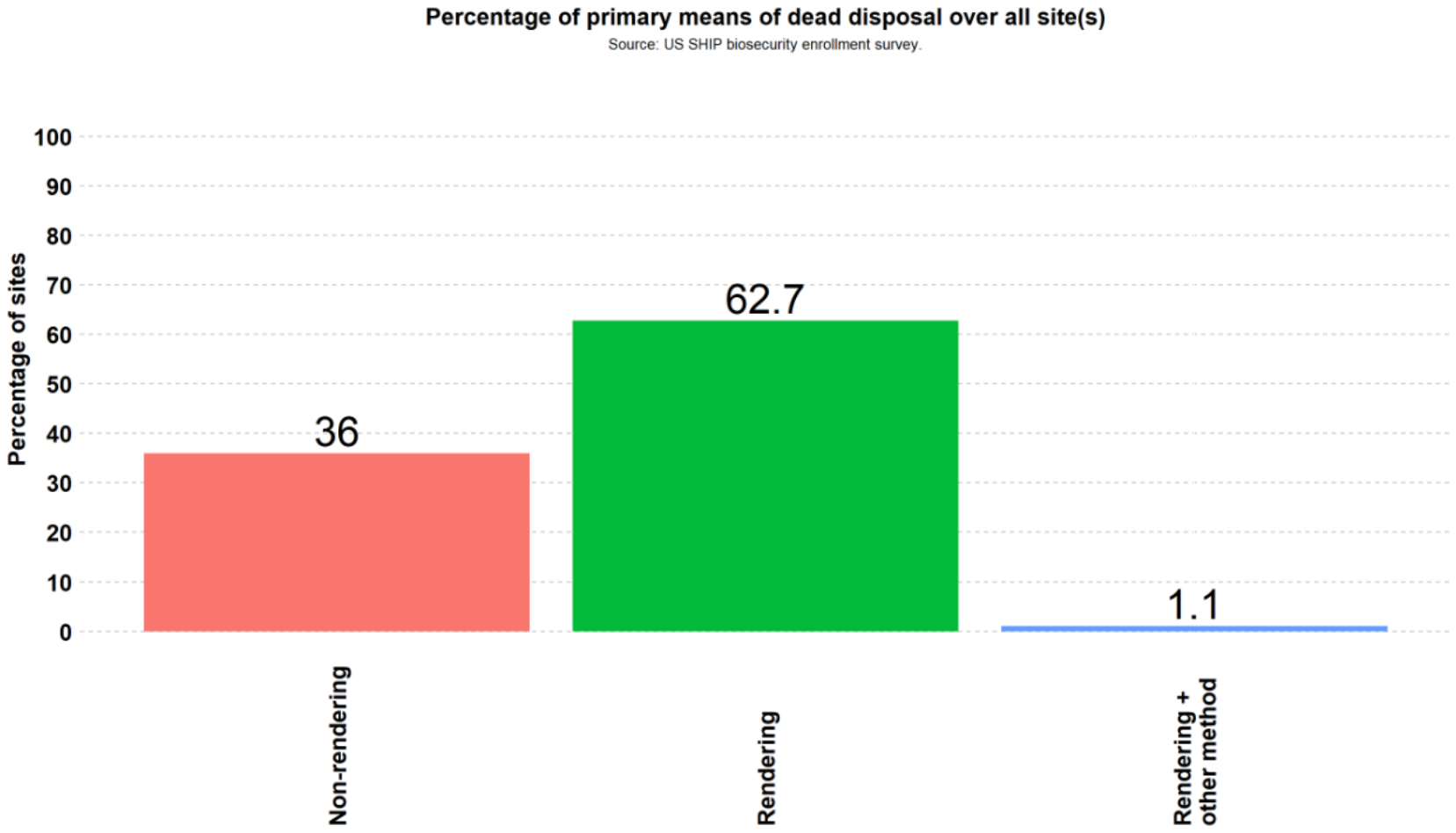
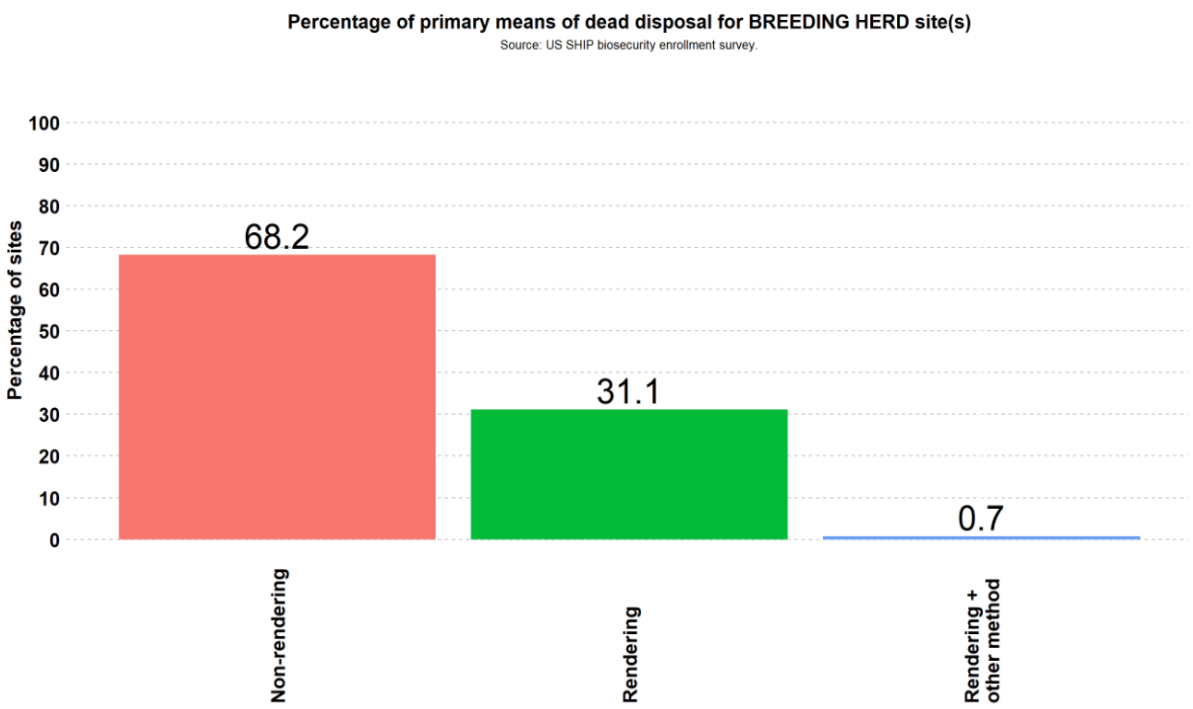
Methods of dead disposal (all sites)

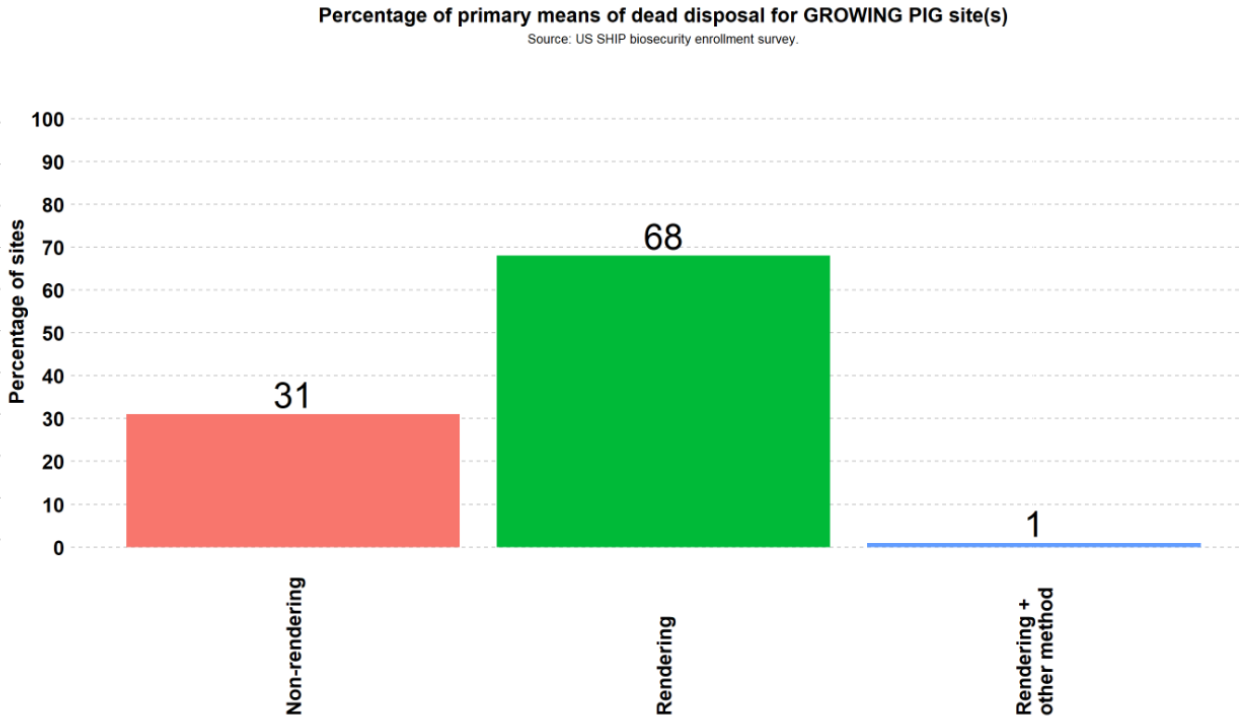


Dead disposal – breeding herds & growing pig sites

Breeding herds

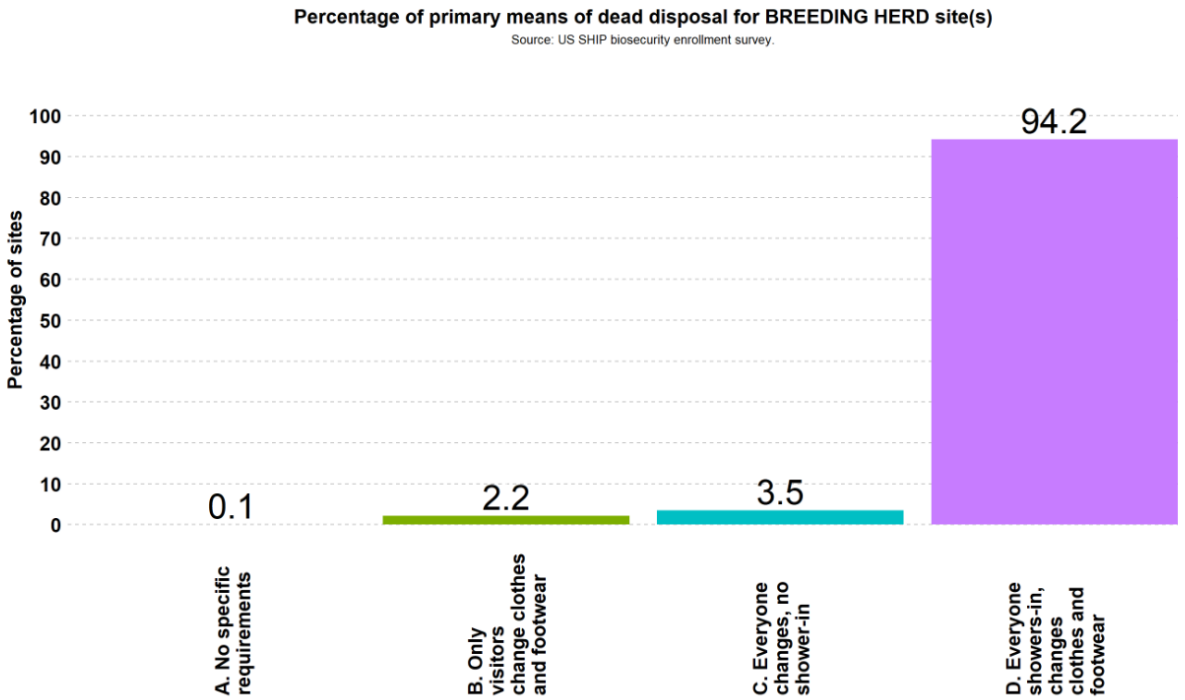


Growing pigs

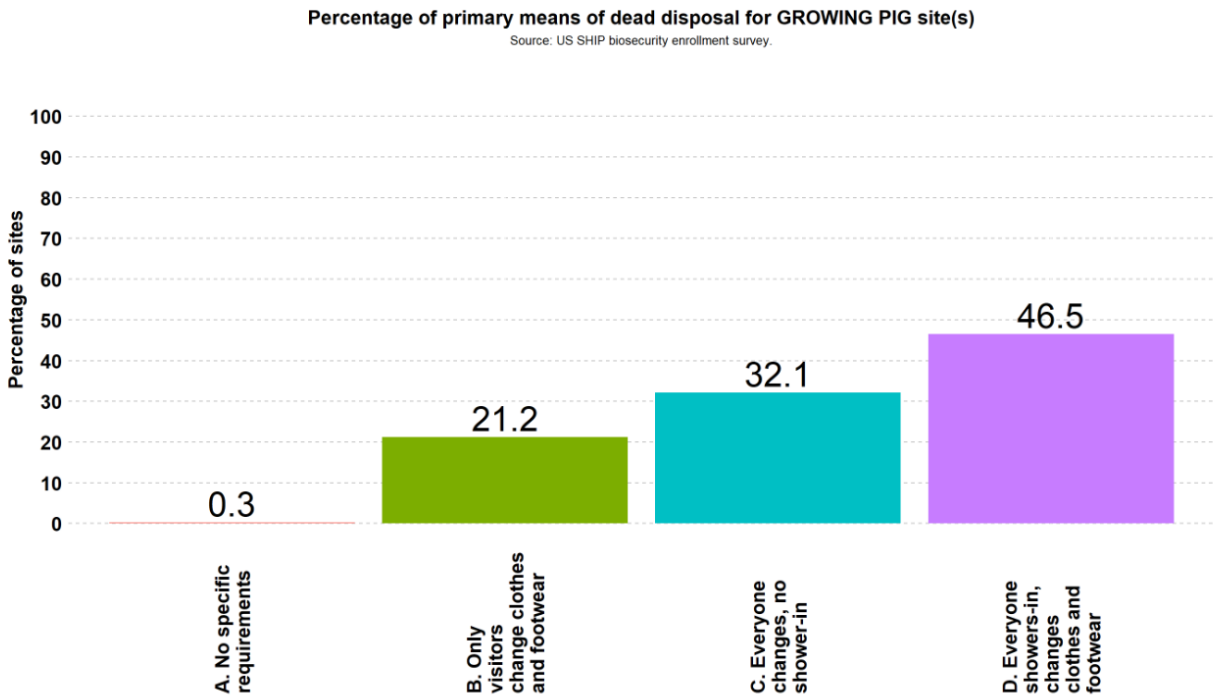


Farm entry procedures – breeding herds & growing pigs

Breeding herds

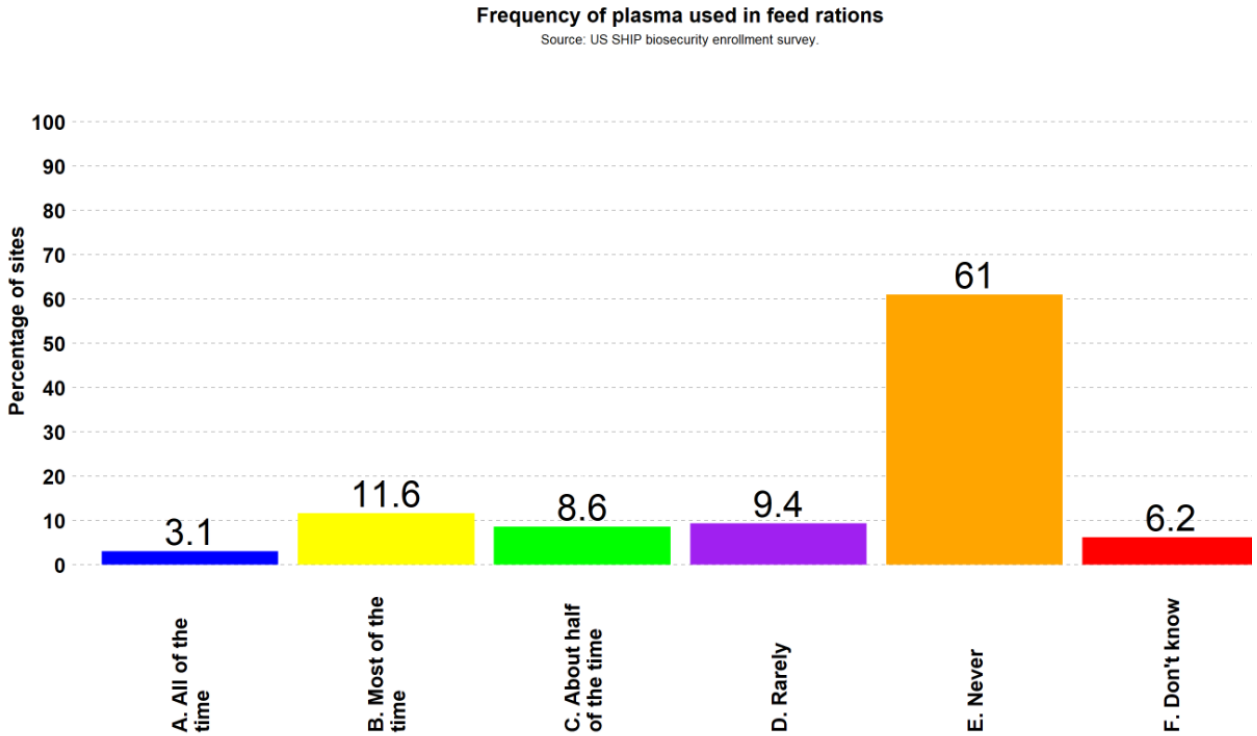


Growing pigs

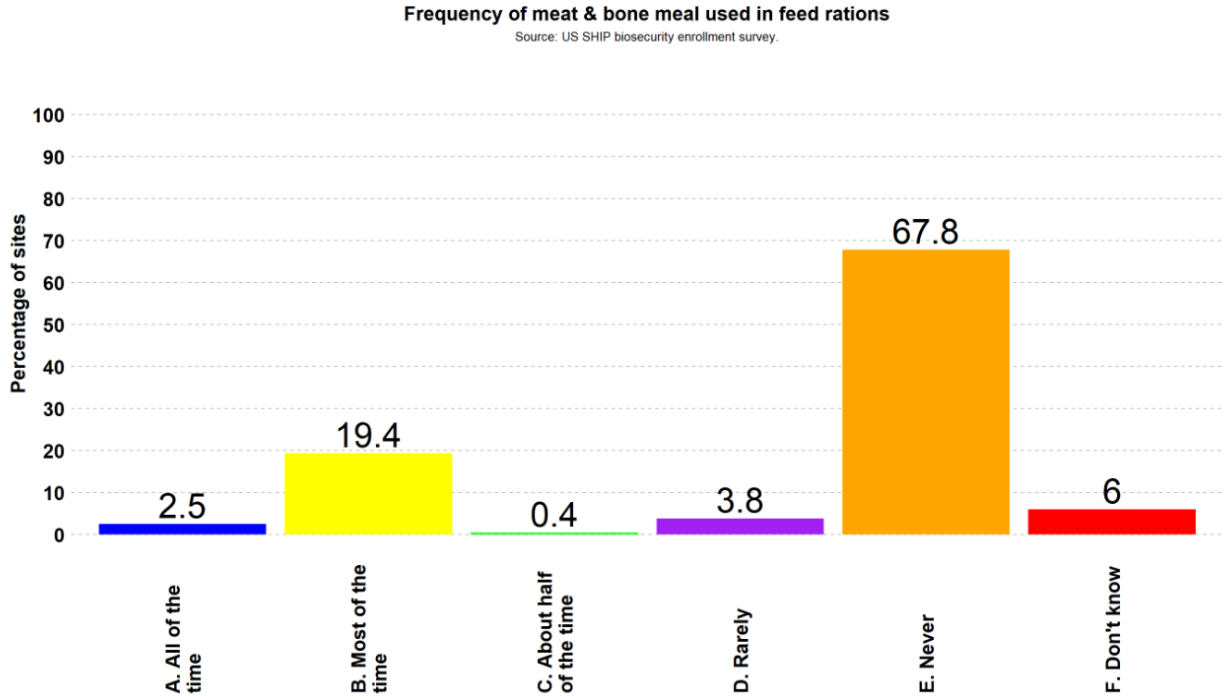


Feed ingredients – Plasma & meat bone meal (all sites)

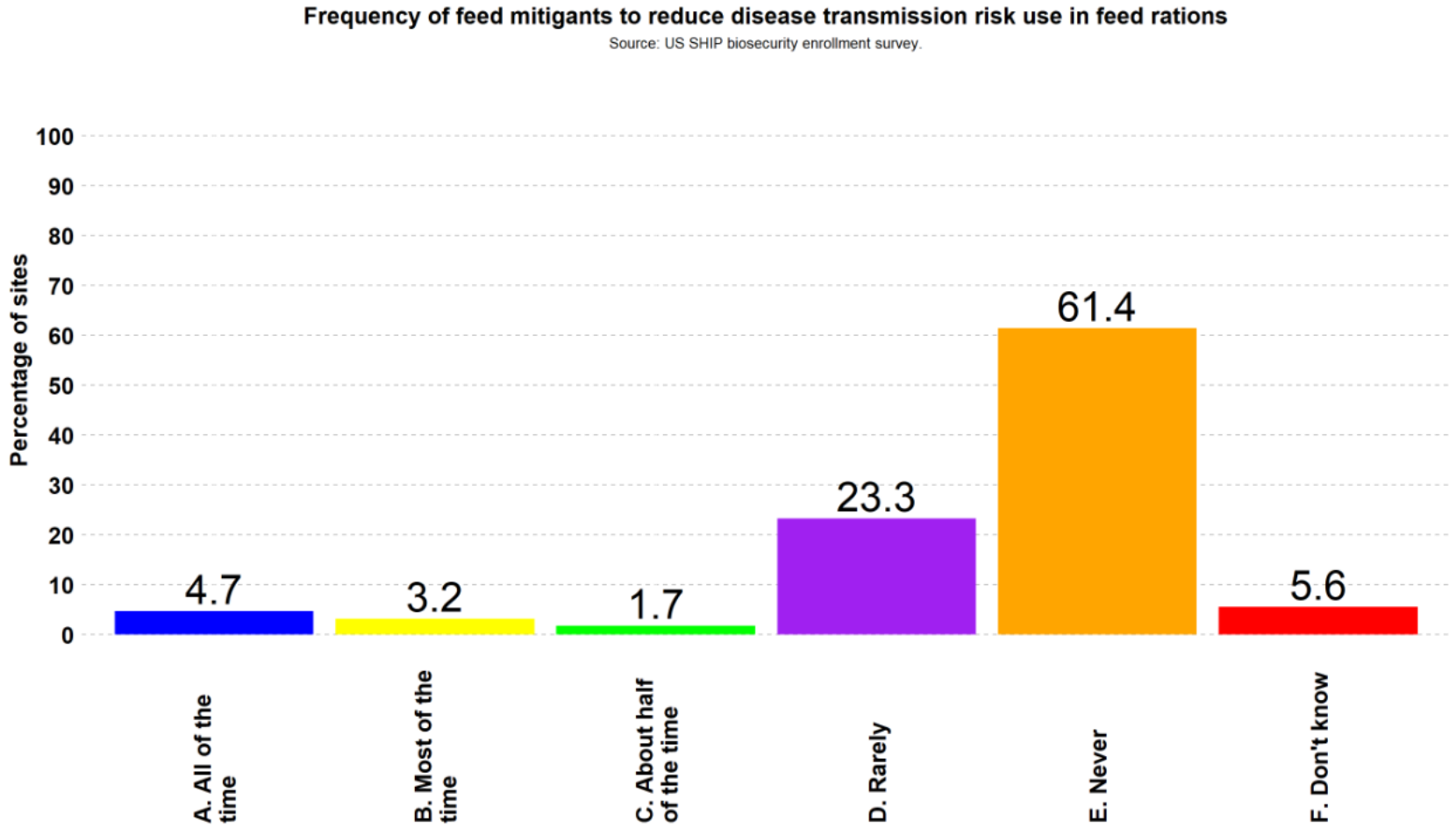
Plasma



Meat and bone meal

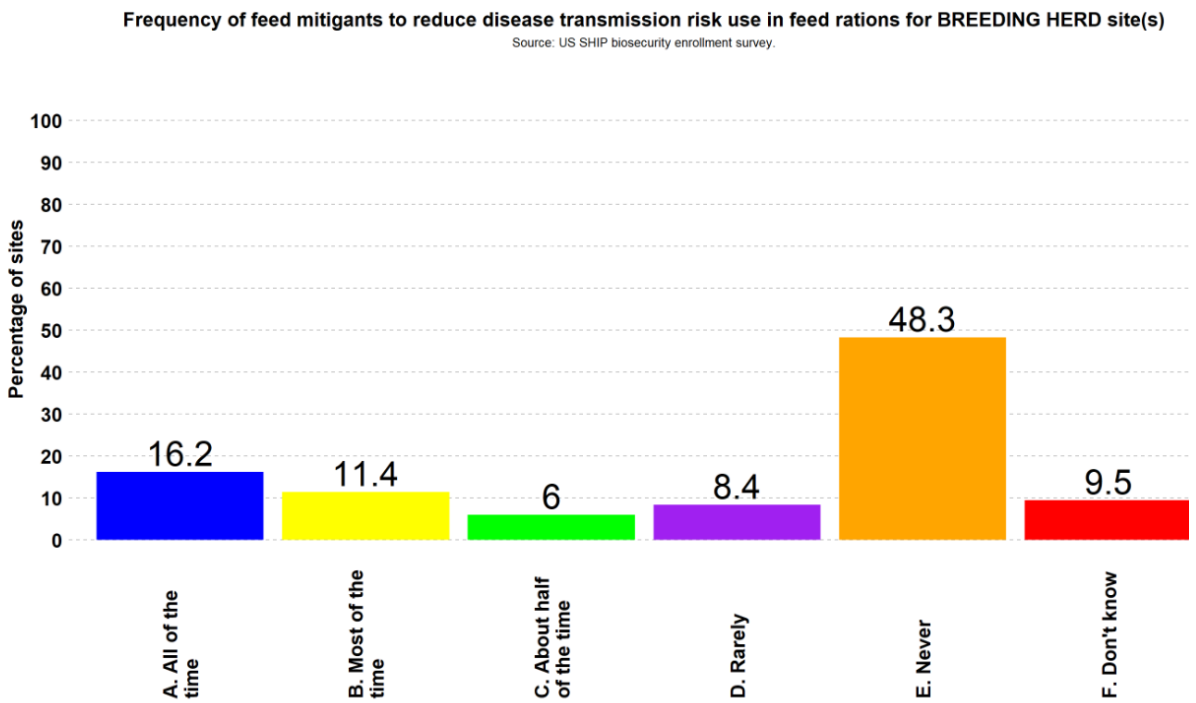


Feed mitigants (all sites)

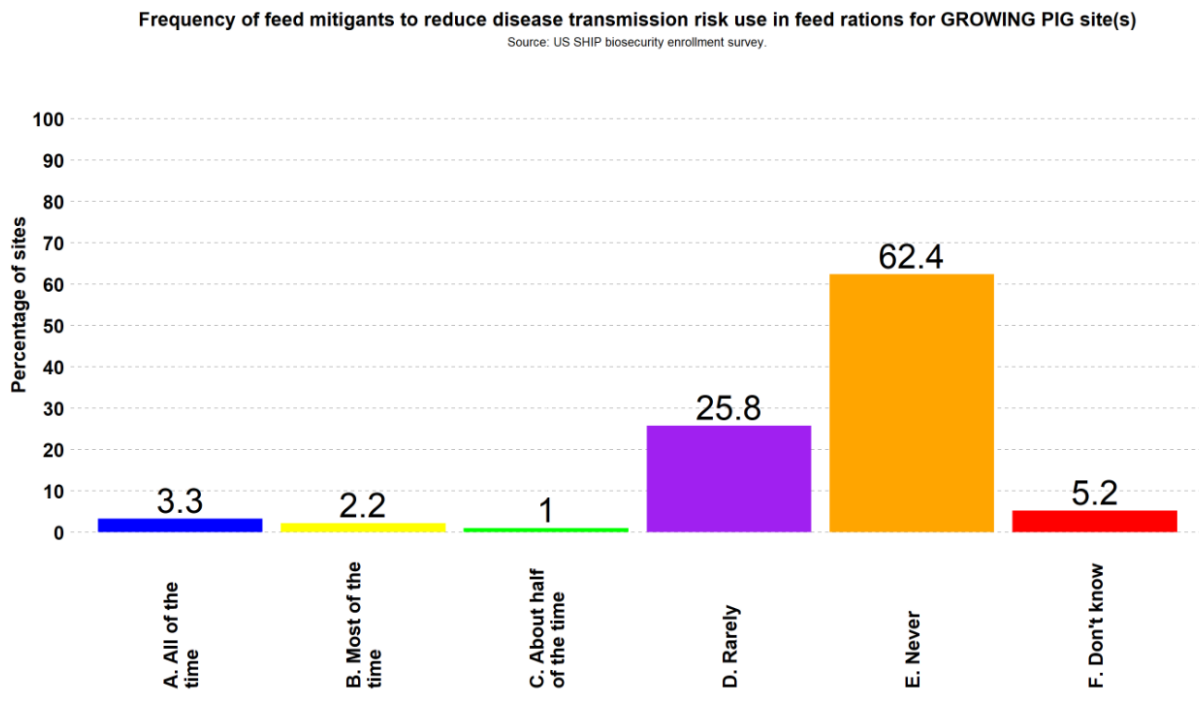


Feed mitigants (breeding herds and growing pigs)

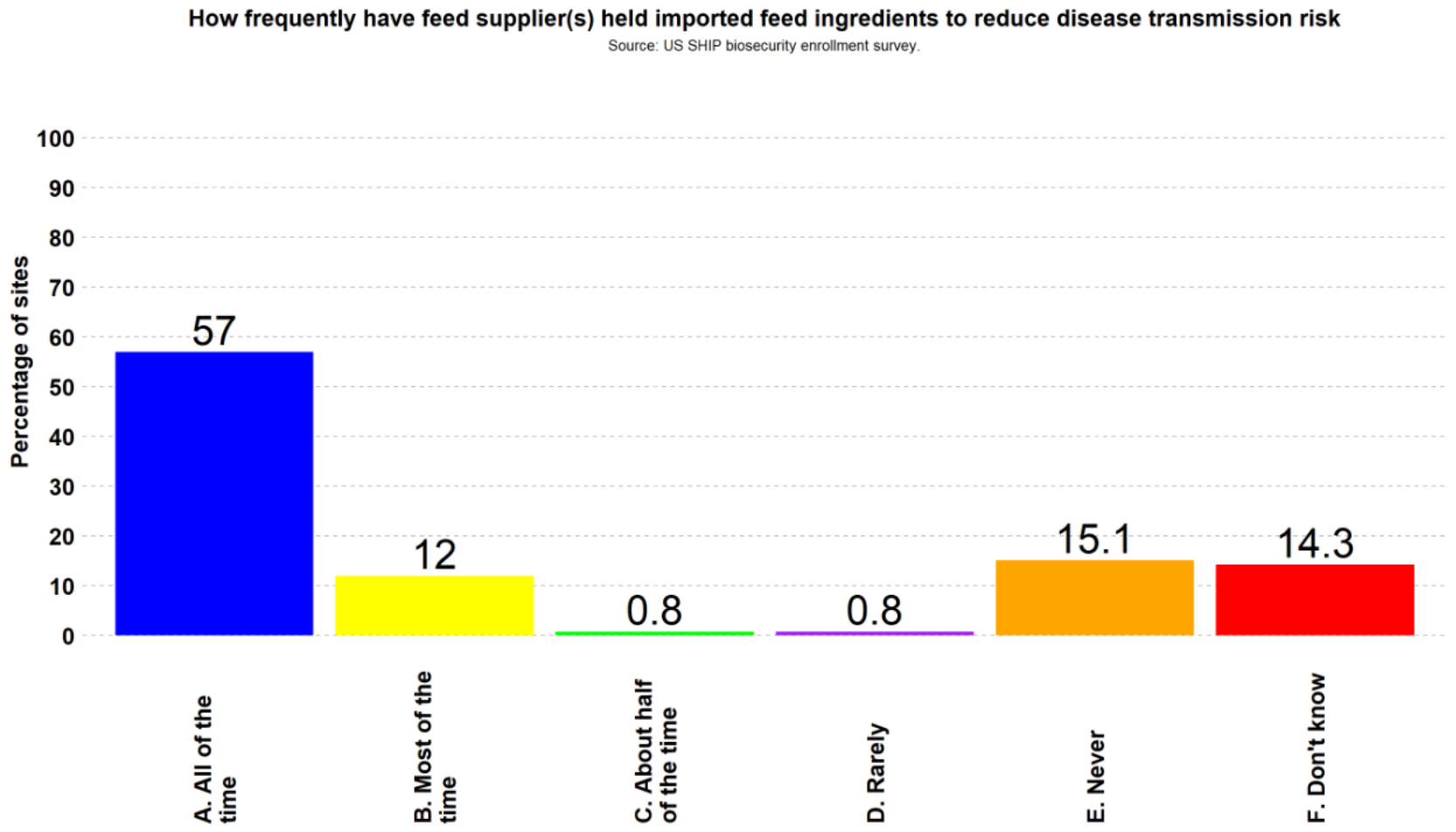
Breeding herds



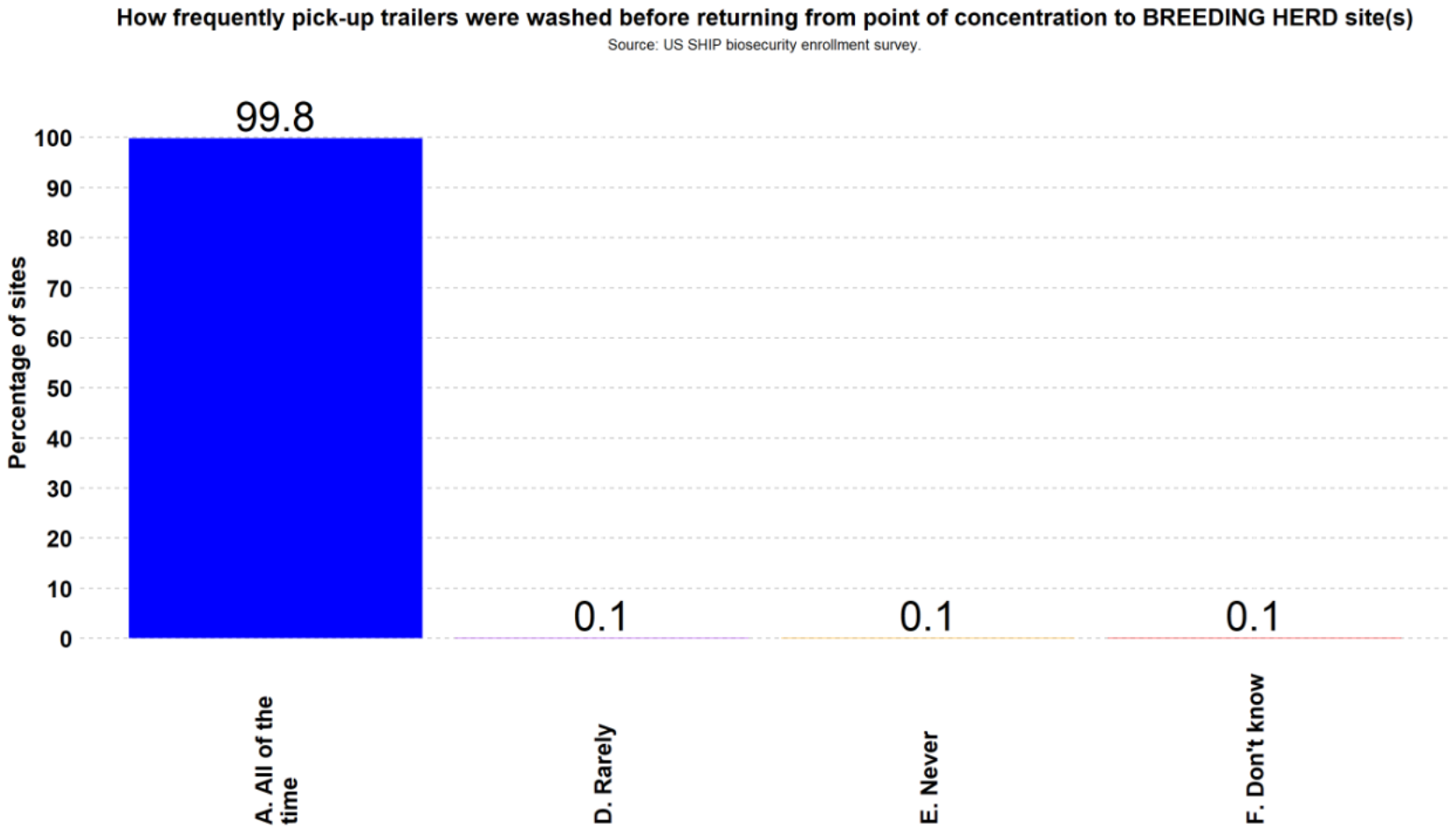
Growing pigs



Holding time for imported feed ingredients (all sites)

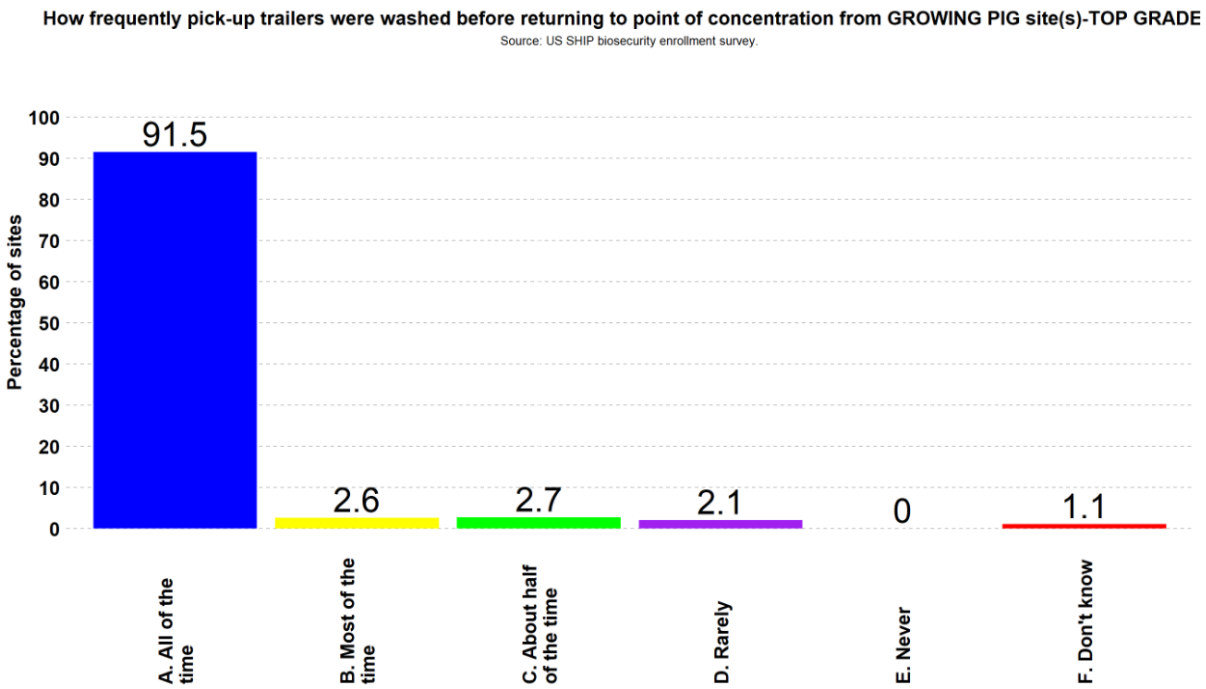


Trailer wash (breeding herds)

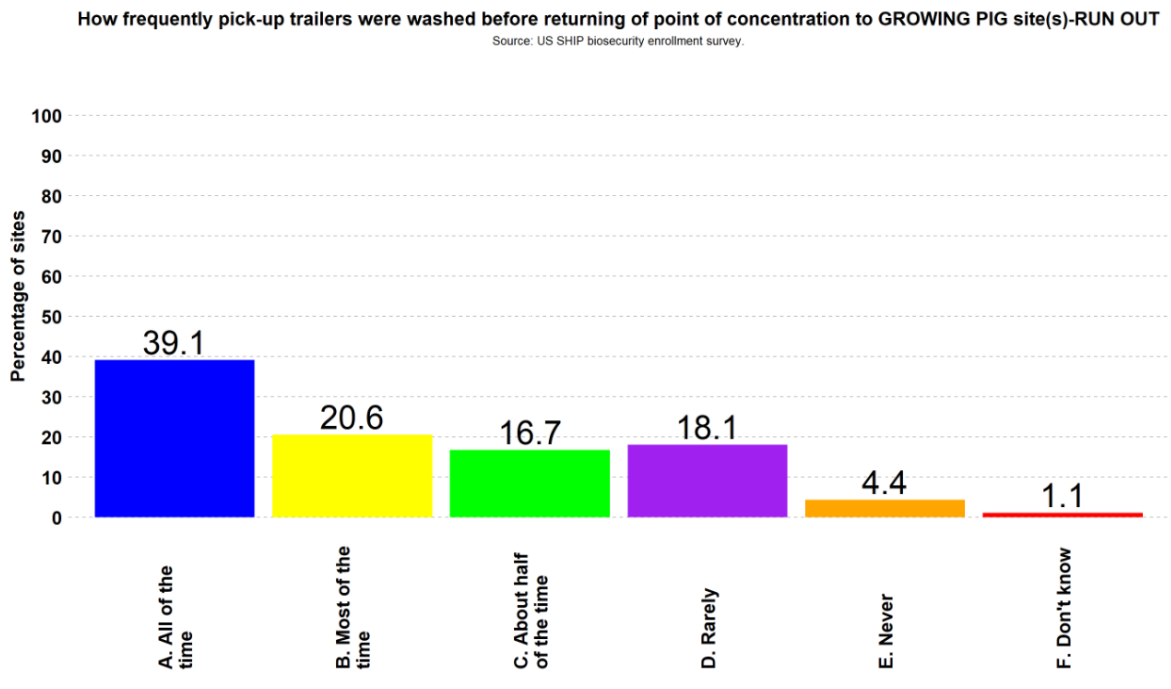


Trailer wash – growing pig sites (top & run out loads)

Top loads



Run-out loads



Summary

- The enrollment survey provides a high level understanding of common biosecurity practices across US SHIP participating herds.
- There are areas of opportunity in particular in farm entry protocols, feed biosafety and livestock transport.
- When it comes to biosecurity, it is important that we all implement it (participants and non-participants)!
- Thanks to all participants for filling out the survey.

Thank you!

torr0033@umn.edu

Feral Swine Mitigation Breakout Session

1:30-3:00 PM

RESOLUTION NUMBER: 2022 - 8

SUBMITTED BY: US SHIP Working Group on Site Biosecurity

SUBJECT MATTER: Mitigating Risks of Direct Contact with Feral Swine

PROPOSED RESOLUTION:

To further define mitigation measures for US SHIP participating sites from feral swine.

The US SHIP House of Delegates requests the commissioning of a coordinated, standing committee to provide recommendations for consideration by the US SHIP House of Delegates in 2023.

Background/Reason:

Segregating domestic pigs from having direct contact with feral swine is a fundamental principle toward protecting the health of US domestic swine and hallmark of foreign animal disease preparedness.

In the absence of intentional biosecurity measures and plans in place, pigs with access to the outdoors can be of substantively increased risk to have direct contact with feral pigs in such areas and regions where feral swine are present.

4 deliverables related to resolution:

- Evaluate risk of feral swine to indoor housed pigs with current biosecurity measures
- Review risk for pigs with outdoor access
- Review potential mitigation strategies for pigs with outdoor access
- Develop standard/resolution for pigs with outdoor access for HOD 2023 meeting

Feral Swine Mitigation Plan

- Lots of discussion about pigs with outdoor access needing a feral swine mitigation plan.
  - Geography?
  - Facility Type?
  - Costs?
  - When to administer?
  - Who to audit?
- Unanimous support it was needed, just unsure how to execute?

Feral Swine Mitigation Plan - Resolution

- Incorporate a “Feral Swine Mitigation Plan” into upcoming revision (2025) of Secure Pork Supply Plan for Outdoor Swine.
  - Keeps programs aligned
  - No need for additional paperwork
  - Eventual incorporation of all production types needing SPS plan (small holding and non-commercial) into 2022 standard
- **Resolution** for the creation of a working group to advise revisions and suggestions for mitigations within SPS resources to include the incorporation of a feral swine mitigation plan for animals with outdoor access.

Feed Biosafety

A national certification program for safeguarding and bettering swine health

Overview of working group

- 30+ members
  - Volunteers from previous SHIP House of Delegates meetings
  - Producers, veterinarians, nutritionists
  - Members of Feed Risk Task Force
    - NPB, NPPC, AFIA, NARA, NGFA, SHIC, USDA, FDA, Canadian Feed Industry Association, others
  - Feed ingredient suppliers (amino acids, vitamins, feed additives)

- Communication in 2023 via Zoom and email
- Visits with swine producers and ingredient suppliers

Program Standard – Feed Biosafety

Feed Supply

☑ The feeding of swill, garbage, or table waste that has the potential to include meat products is strictly prohibited.

Page 13

Program Standard – Feed Biosafety

In the event of an ASF or CSF incursion into the US (ASF/CSF Risk Level 3; immediately after incursion, or if state/region positive), participants are to implement a temporary cessation of feeding spray-dried plasma, blood meal, meat and bone meal, intestinal peptide products, or other meal-based feedstuffs that have the potential to be of porcine origin.

This temporary cessation will be lifted if ingredients described above are sourced from:

a. Suppliers with enhanced post-processing biosafety measures in place[1,2]
b. States or regions at ASF/CSF Risk Level 2 (Operations normalizing, State or Region negative).
c. US returns to ASF/CSF Risk Level 1 (US Negative).

[1]Requirements of post-processing treatment facilities:	[2]Approved post-processing treatments:
Enhanced post-processing treatment must occur at facilities that have premises level segregation from: Premises in which protein sources of porcine origin were initially heat treated (rendered or spray-dried) in accordance with feed grade safety requirements. AND Finished feed facilities manufacturing feed for swine.	Thermal processing OR Ingredient quarantine/holding time and temperature

Page 13

Feed Biosafety – 2023 areas of focus

1. Explore available information specific to 2022 Program Standard related to porcine-origin ingredients in event of ASF/CSF incursion.
   - Literature review to summarize information and determine if sufficient peer-reviewed scientific information exists to clarify would be considered “Approved post-processing treatments”.
   - Olivia Harrison

2. Feed ingredient import program
   - Pilot demonstration of voluntary feed ingredient import program
   - Dr. Jamil Faccin

Post-manufacturing mitigation of porcine-derived feed ingredients

Olivia Harrison

A national certification program for safeguarding and bettering swine health

Literature Review: Objectives

Objectives

1. Describe the current practices and efficacy of spray-drying and rendering regarding virus inactivation,
2. Evaluate the available literature focused on mitigation of porcine-derived ingredients after manufacturing, and
3. Identify knowledge gaps which need addressed for the continued and safe use of these protein sources in the event of a foreign animal disease outbreak.

Feed Ingredient Importation

Jamil Faccin, DVM, PhD

US Swine Health Improvement Plan
Feed ingredient importation biosecurity protocol

The risk of the introduction of viruses of veterinary significance through the importation of feed and feed ingredients from countries of high risk is well documented. In an effort to mitigate this risk, program participants must apply principles of Responsible Imports as outlined below. These standards apply to any non-bulk ingredient (defined as 1 metric ton packaging or less) originating from or undergoing transit through a region with known presence of African swine fever virus (ASFV) and/or Classical swine fever virus (CSFV). To comply with this program, the importation of said ingredients sourced from the defined areas must incorporate:

1. **Traceability:**
   ✓ Suppliers/importers must have documented traceability practices with the ability to track individual lots back to the source, including manufacture location, manufacture date, arrival date to port in United States, and arrival date to the quarantine location within the United States.

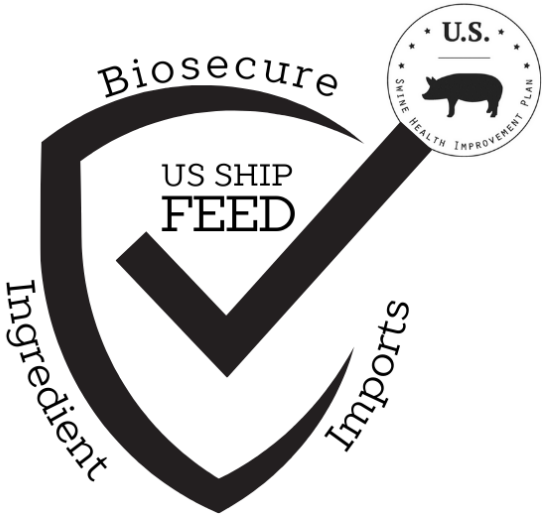
2. **Biosecurity at origin:**
   ✓ Suppliers/importers must certify that a clean container is used when a product is loaded at port of origin, including a protocol of disinfection of interior surfaces of shipping containers prior to loading using a United States EPA-registered disinfectant approved for use against ASFV and CSFV administered at the validated concentration and allowed the appropriate contact time.
   ✓ There must be no use of recycled, refurbished, or re-used bags or pallets.
   ✓ Products must be bagged/palletized/shrink wrapped prior to loading into shipping container.
   ✓ Containers must be sealed and locked at port of origin with tamper proof seals.

3. **Biosecurity upon arrival in United States at ingredient importer warehouse:**
   ✓ If a product arrives damaged, the supplier/importer must handle the product in a biosecure manner, including sealing of damaged packaging, cleaning spilled material to prevent cross-contamination, and disinfecting surfaces contacting spilled material using a United States EPA-registered disinfectant approved for use against African swine fever virus with appropriate contact time.
   ✓ Trucks bringing products to importer's warehouse must be properly cleaned disinfected using a United States EPA-registered disinfectant approved for use against ASFV with appropriate contact time following transport of ingredients to quarantine warehouse.

4. **Requirements of quarantine facility and process:**
   ✓ Ingredients must be stored in an enclosed airspace that is clearly delineated to prevent all contact with personnel during the quarantine period.
   ✓ Ingredients must be stored for a minimum of 30 days at or above 68°F (20.0°C) before being eligible to be transported to feed manufacturing facilities.
   ✓ The quarantine facility must implement biosecurity measures to reduce the risk of employees and visitors becoming contaminated during the quarantine of incoming ingredients. The use of dirty/clean lines and signage in English and Spanish is recommended.
   ✓ Employees and visitors are required to observe a 5-day downtime prior to being admitted entry to the facility following travel to a region with known presence of ASFV and/or CSFV.

Voluntary program originating from resolution passed at 2022 House of Delegates Meeting

1. Traceability
2. Biosecurity at origin
3. Biosecurity upon arrival in US
4. Requirements for quarantine



- Jordan Gebhardt, DVM, PhD
- Olivia Harrison
- Jamil Faccin, DVM, PhD
- Jason Woodworth, PhD
- Cassie Jones, PhD
- Chad Paulk, PhD

Appreciation is expressed for support in developing pilot feed ingredient import program to:

- Dr. Scott Dee, Pipestone
- Dr. Roger Cochrane, Pipestone
- Apoorva Shah, SAM Nutrition

Thank you

Live Haul Sanitation Working Group

Edison Magalhaes, DVM, MS, PhD(c)

Live Haul Sanitation Breakout Session

3:30 – 5:00 pm
Room: (Veranda 1-4)

1. Overview of US SHIP resolution 2022-4#
2. Deliverable 2: US Truck Wash Visits
3. Deliverable 1: Pilot study
4. Take homes & questions for the audience
5. Open discussion

When transporting ***top (graded) loads (green) and run out loads (red)*** from GROWING PIG sites to terminal points of concentration (i.e., slaughter facility, buying station, cull market, etc.), **livestock trailers** being used to pick-up top (graded) loads of pigs from GROWING PIG sites **have been cleaned** and disinfected **since last returning from a terminal point of concentration?**

Survey of Sampling of 65 US Swine Veterinarians speaking to their estimate of practice in the region of the US in which they operate.

(April 2022)

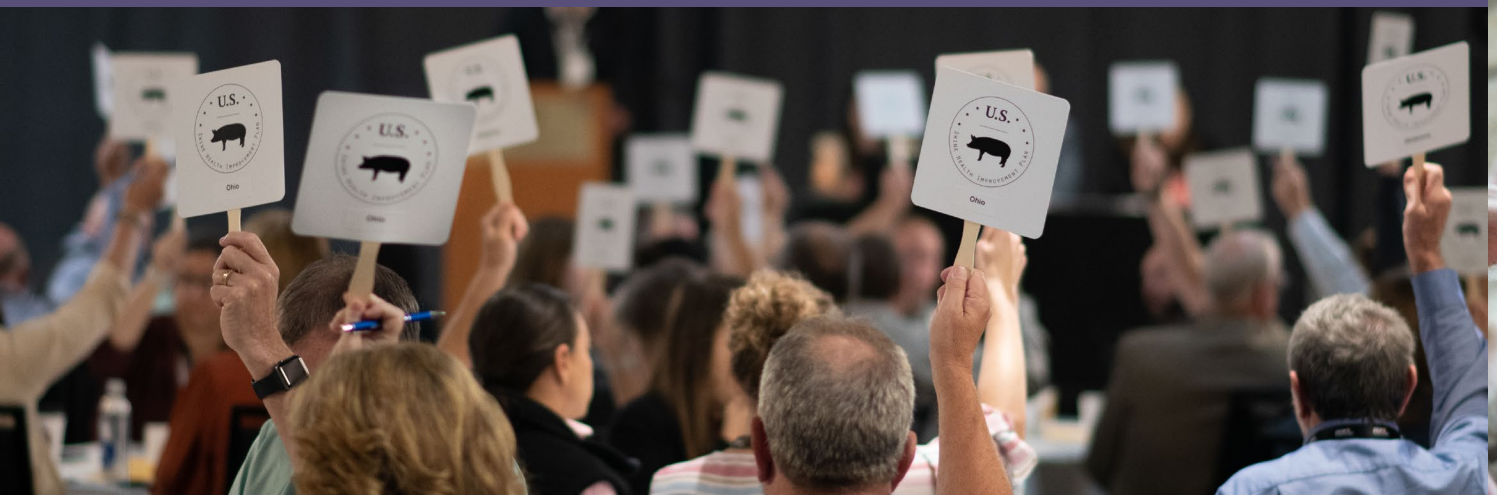
Interpretation:
Consistent with US SHIP Working Group Responses

US SHIP - Live Haul Sanitation Resolution 2022-4

- US SHIP House of Delegates supports moving forward with a series of **efforts leading towards the future consideration** of a program standard requiring livestock trailers returning from terminal points of concentration (e.g., slaughter facilities, buying stations, or cull markets) to be cleaned and disinfected prior to returning to farm sites or farm site collection points (depots).

Deliverable #2:

Establish working educational forum for sharing market haul best practices

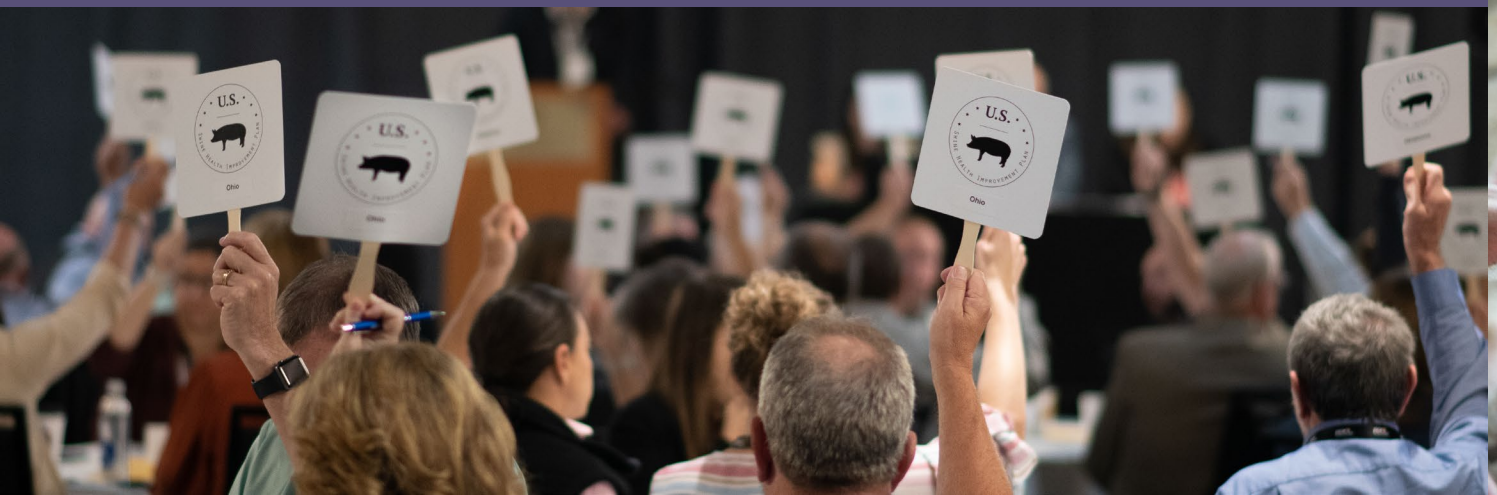


Truck Wash Visits

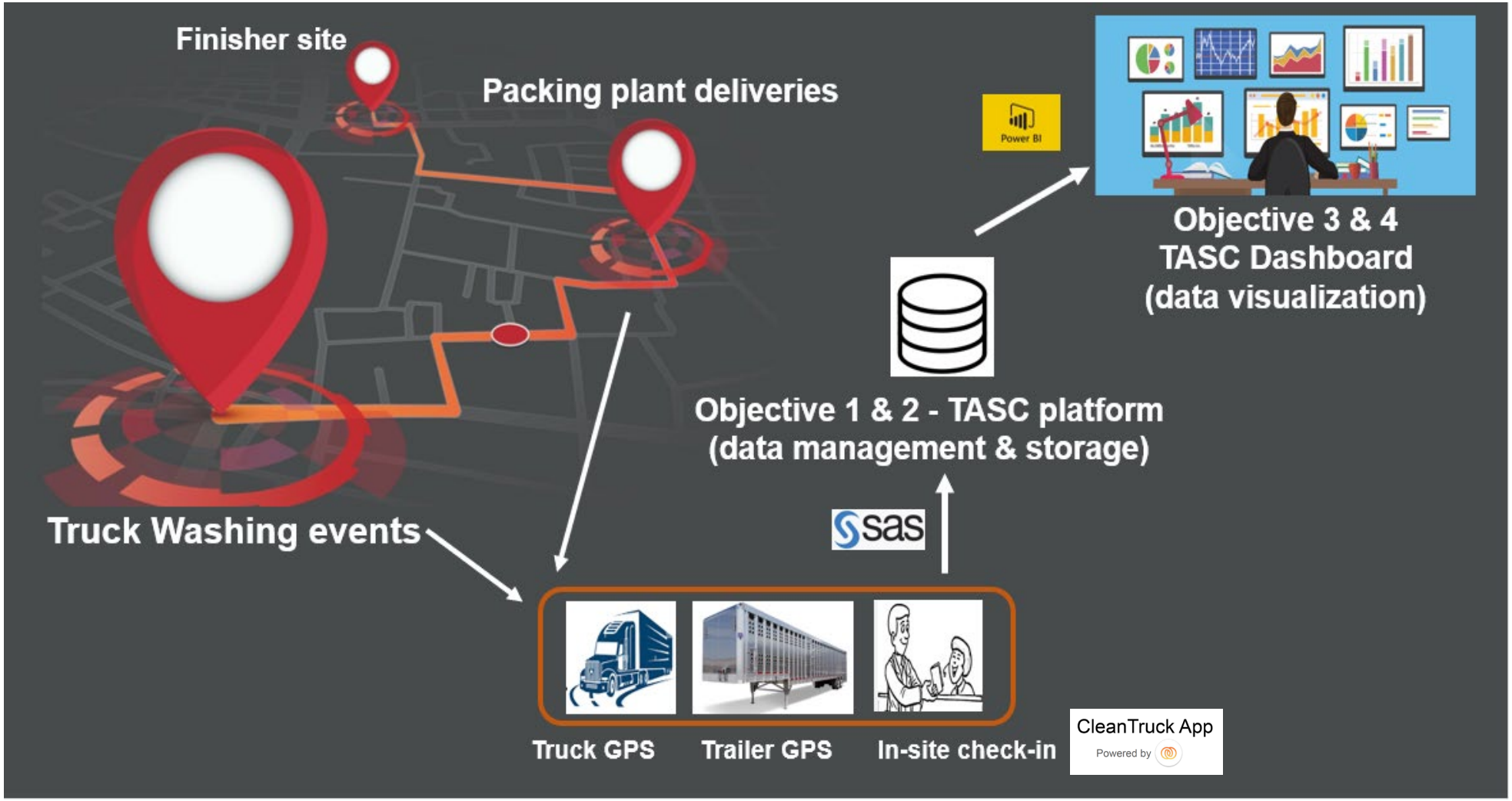
- Support of the advisory group on identifying systems currently washing all market trailers (Spring 2023).
  - 6 truck washes were selected to be visited during this summer.
  - In-loco visits to collect information on how the systems are currently washing all trailers and infrastructure needs to do so?
    - Three truck washes at the packing plant
    - One nearby the packing plant
    - Two not close to the packing plant.

Deliverable #1: Pilot Study Prestage Farms

(Edison Magalhaes & Ryan Pudenz)



TASC platform (Truck Automated Sanitation Classification)



SHIC Swine Health Information Center

A national certification program for safeguarding and bettering swine health

Prestage Farms of Iowa - Site Layout

Live Haul Sanitation Breakout Session

3:30 – 5:00 pm Room: (Veranda 1-4)

1. Overview of US SHIP resolution 2022-4#
2. Deliverable 2: US Truck Wash Visits
3. Deliverable 1: Pilot study
4. Take homes & questions for the audience
5. Open discussion

Traceability Technical Working Group

Daniel Boykin, DVM

Introduction

- Activities of the Traceability Working Group
- Proposed Standards and Resolutions
- Global Traceability Review – Dr. Erin Lowe
- US Movement Repository – Dr. Giovani Trevisan

2022 Resolution – Activities of the Working Group

- 2022 – 1
  - **Pathway to 21st century traceability of swine movements in the US pork industry**

  - "…supports moving forward with a ***series of initiatives*** necessary to enable the future consideration and implementation of a program standard requiring [inter-premises movements deposited to an approved repository] within 7 days of delivery…"

  1. Formation of a multidisciplinary (Industry, State, & Federal) working group to fully vet:
     a) Approaches that could be taken towards scalably meeting a prescribed standard requiring reporting of inter-premises movements
     b) Defining the requirements, functionality, and operational covenants necessary for entities to be recognized as an approved repository

Membership

- Daniel Boykin – Smithfield Foods
- Katherine Stack – Wholestone Foods
- Anna Forseth – NPPC
- Christine Mainquist-Whigham – Pillen Family Farms
- Daniel Hendrickson – 4 Star Vets
- Erin Lowe – Lowe Consulting
- Giovani Trevisan – US SHIP
- Jeff Kaisand – Iowa State Veterinarian
- Jim Lowe – University of Illinois
- Joel Nerem – Pipestone
- Matt Davis – Hord
- Michael Rybolt – Tyson
- Michelle Sprague – AMVC
- Miriam Martin – NAMI
- Katie Coleman – Iowa Select Farms
- Patrick Webb – NPB
- Rodger Main – US SHIP
- Ryan Scholz – Oregon State Veterinarian
- Stephan Schaefbauer – USDA
- Tyler Holk – US SHIP
- Cody Egnor – USDA

2022 Resolution – Activities of the Working Group

- 2022 – 1
  - **Pathway to 21st century traceability of swine movements in the US pork industry**

  - "…supports moving forward with a ***series of initiatives*** necessary to enable the future consideration and implementation of a program standard requiring [inter-premises movements deposited to an approved repository] within 7 days of delivery…"

  2. Complete a more in-depth study and review of the various approaches and systems being implemented in the various pork exporting countries around the world currently meeting this prescribed standard of practice

     - Dr. Erin Lowe to present on Global Traceability review

2022 Resolution – Activities of the Working Group

- 2022 – 1
  - **Pathway to 21st century traceability of swine movements in the US pork industry**

  - "…supports moving forward with a ***series of initiatives*** necessary to enable the future consideration and implementation of a program standard requiring [inter-premises movements deposited to an approved repository] within 7 days of delivery…"

3. Study of the various approaches and systems producers and packers are using to capture inter-premises swine movements.
4. Advocate for development and/or adoption of built for purpose applications that could be used by industry participants to facilitate compliance with movement reporting
5. Expand proof of concept pilot projects demonstrating competence in achieving the reporting of swine movement records

  - Dr. Giovani Trevisan to present on US Movement Repository

2023 Proposed Amendment to Standards

- 2023 – 3 (pg. 24)
  - Inter-premises Swine Movement Records: Eliminating “Head in Movement” as a Required Field to be Recorded Unless Otherwise Required to Meet a Regulatory Requirement
- **CURRENT STANDARD:**
- The minimum information required to be recorded for each movement is:
  - Date of Movement
  - Origin State
  - Origin Premises Identification Number (PIN)
  - Destination State
  - Destination Premises Identification Number (PIN)
  - **Head In Movement**

- **PROPOSED AMENDMENT / UPDATE:**
  - **± Head In Movement (Only When Needed to Meet a Regulatory Reporting Requirement)**

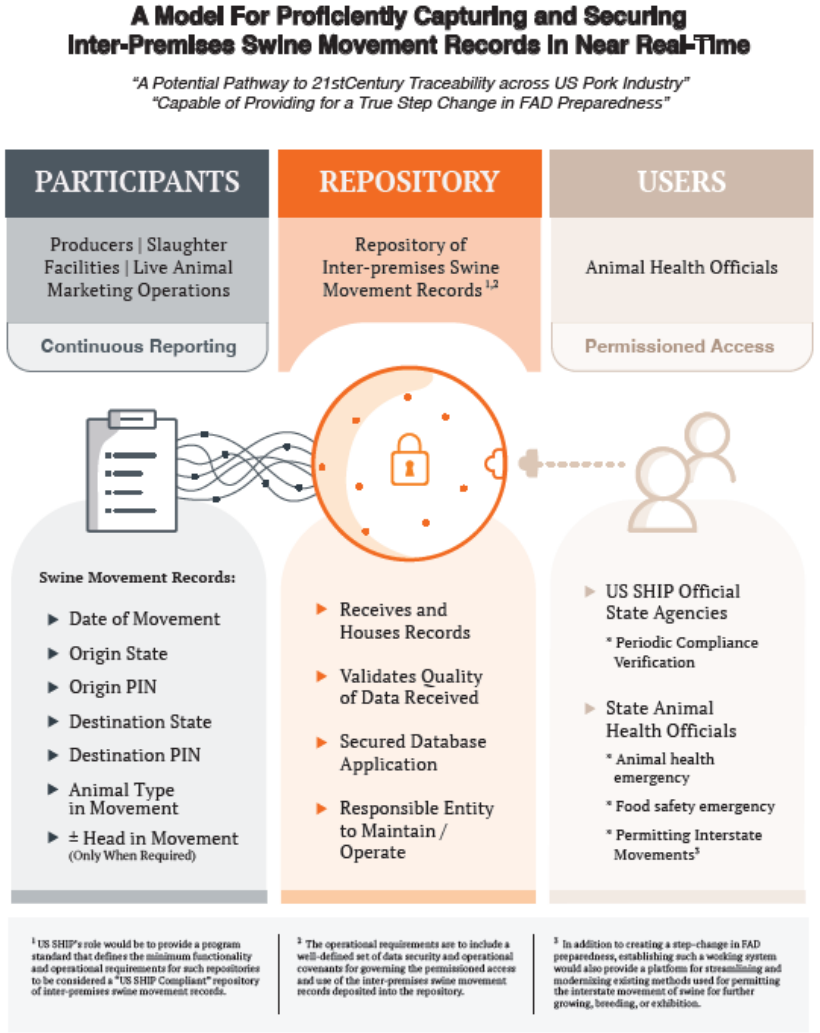
2023 Proposed Standards

- 2023 – 4 (pg. 25)
  - Inter-premises Semen Movement Records: Eliminating “Number of Units in Shipment” as a Required Field to be Recorded Unless Otherwise Required to Meet a Regulatory Requirement
- **CURRENT STANDARD:**
- The minimum information required to be recorded for each movement is:
  - Date of Movement
  - Origin State
  - Origin Premises Identification Number (PIN)
  - Destination State
  - Destination Premises Identification Number (PIN)
  - **Number of Units in Shipment**

- **PROPOSED AMENDMENT / UPDATE:**
  - **± Number of Units In Shipment (Only When Needed to Meet a Regulatory Reporting Requirement)**

2023 Proposed Resolution

- 2023 – 1 (pgs. 33-39)
  - Utilization of a “US SHIP Compliant Repository of Inter-Premises Swine Movement Records” for Capturing Movement Records of Swine Being Moved Interstate for Further Growing, Breeding, or Exhibition in Near Real-Time Across a Number of US States.
    - **Addendum 1 (pg. 37)**
  - The permissioned database application used and the entity responsible for managing and providing the services of the “US SHIP Compliant Repository of Inter-premises Swine Movement Records” in this proposed pilot project are to meet or exceed a baseline set of operational covenants and functionality requirements drafted by the US SHIP Traceability Work Group in 2023
    - **Addendum 2 (pgs. 38-39)**



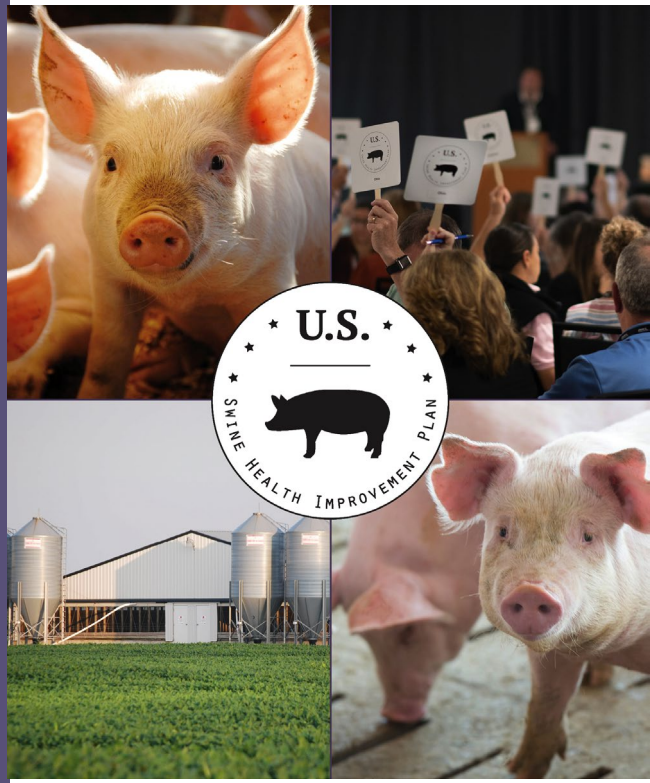
- Daniel Boykin
- dtboykin@smithfield.com

Breakout Session at 1:30

US SHIP
Traceability Systems Research

Traceability in other pork export countries

Erin Lowe



Charge from Resolution 1, HOD 2022

Complete a more in-depth study and review of the various approaches and systems being implemented in the various pork exporting countries around the world that are currently meeting this prescribed inter-premises movement of swine reporting standard of practice.

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Video Series On Traceability For Your Review In Preparation for the 2023 House of Delegates

In preparation for the US SHIP House of Delegates discussions on the traceability resolution "*Utilization of a US SHIP Compliant Repository of Inter-Premises Swine Movement Records for Capturing Movement Records of Swine Being Moved Interstate for Further Growing, Breeding, or Exhibition in Near Real-Time Across a Number of US States,*" the US SHIP traceability working group is sharing a four-part video series that was created to share major findings on traceability across other pork exporting countries. The four-part series can be found on YouTube with the following titles:

1. What is Traceability? (3 min) (**https://www.youtube.com/watch?v=Yk8CQ__aMGQ)**
2. The Components of a Traceability System (3 min)(**https://www.youtube.com/watch?v=gAGX44BTM_4)**
3. Exploring Traceability Systems (10 min) (**https://www.youtube.com/watch?v=SXVNqLMMB6Y)**
4. Data Entry, Management, and Governance (6 min) **https://www.youtube.com/watch?v=PDRs7DajjIM)**

Also found on Pg 72 of your proceedings

What I hope you leave with…

Based on this research:

- There is a need to clarify the definition of traceability
- There is no one model or recipe to achieve traceability
  - The purpose of a traceability system may vary
  - The building blocks are generally the same
  - The architecture varies
- The rationale is to create trust with the ‘consumer’
  - Participation is key

Overview

Traceability: definition and components of a traceability system

Traceability systems in:

- Canada
- Australia
- Denmark
- Brazil




Traceability system wrap-up

define traceability

Traceability refers to the ability to track the movement of a product or item, as well as its components or ingredients, through all stages of its production, processing, and distribution. The purpose of traceability is to establish a clear record of where a product came from and where it went, in order to facilitate quality control, safety management, and regulatory compliance. This is often accomplished through the use of unique identifiers, such as serial numbers or barcodes, which are assigned to each product or component and can be used to track its movement through the supply chain. Traceability is particularly important in industries such as food, pharmaceuticals, and electronics, where the safety and quality of products can have significant implications for public health and safety.

https://chat.openai.com/

Logistic Traceability

Logistic traceability - trace goods along a path through a distribution chain.

- Ex: Dog treat recall - UPC, Batch number

COMPANY ANNOUNCEMENT

Stormberg Foods LLC Recalls Chicken Strips and Chicken Crisps Products for Dogs Due to Possible Salmonella Contamination

https://www.fda.gov/safety/recalls-market-withdrawals-safety-alerts/stormberg-foods-llc-recalls-chicken-strips-and-chicken-crisps-products-dogs-due-possible-salmonella

Attribute Traceability

Attribute traceability - trace processes or practices to support product claims

- Ex: Ikea lumber – Forestry Stewardship Council
    - Forest Management Certified Sources

FSC
www.fsc.org
FSC® N001972
The mark of responsible forestry

https://www.ikea.com/us/en/this-is-ikea/about-us/wood-a-material-with-many-qualities-pubed4c8a10

The rationale behind traceability is to create trust.

Traceability Systems in 4 Export Markets
-Stated Purpose

Federal - PigTrace Canada

'designed ***to ensure protection, prosperity and peace of mind*** for the Canadian pork industry and its customers.'

Industry - Australia's PigPass

'a clear picture of all pig movements is known' … 'important ***in the event of a disease outbreak or food safety emergency***.'

'also provides ***assurance to consumers*** of the safety, integrity and traceability of pork products.'

Industry -> Federal for Govt programs

Federal - Denmark's Central Husbandry Register

'CHR plays an ***important role in the veterinary preparedness***.'

'can be used in connection with serious disease outbreaks,'

State -> Federal Govt. programs

Brazil's AgriTrace

'**give international traders additional health information' beyond** what is 'offered by the Brazilian government.'

'building ***greater confidence*** in Brazil's exported products.'

The Components of a Traceability System

The Data

What fields? What format?

Data Entry and Management

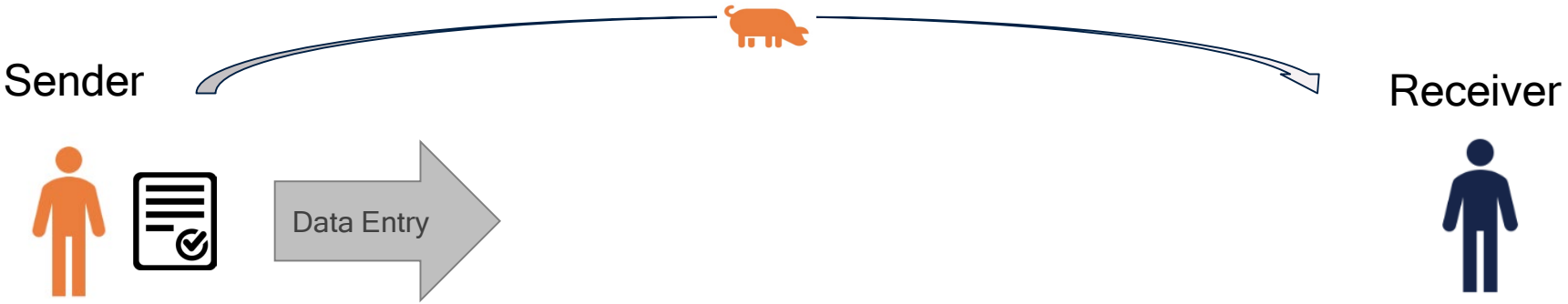
How can it be entered? When does it need to be entered? Who is responsible to entry?

Where is it stored? How is it managed?

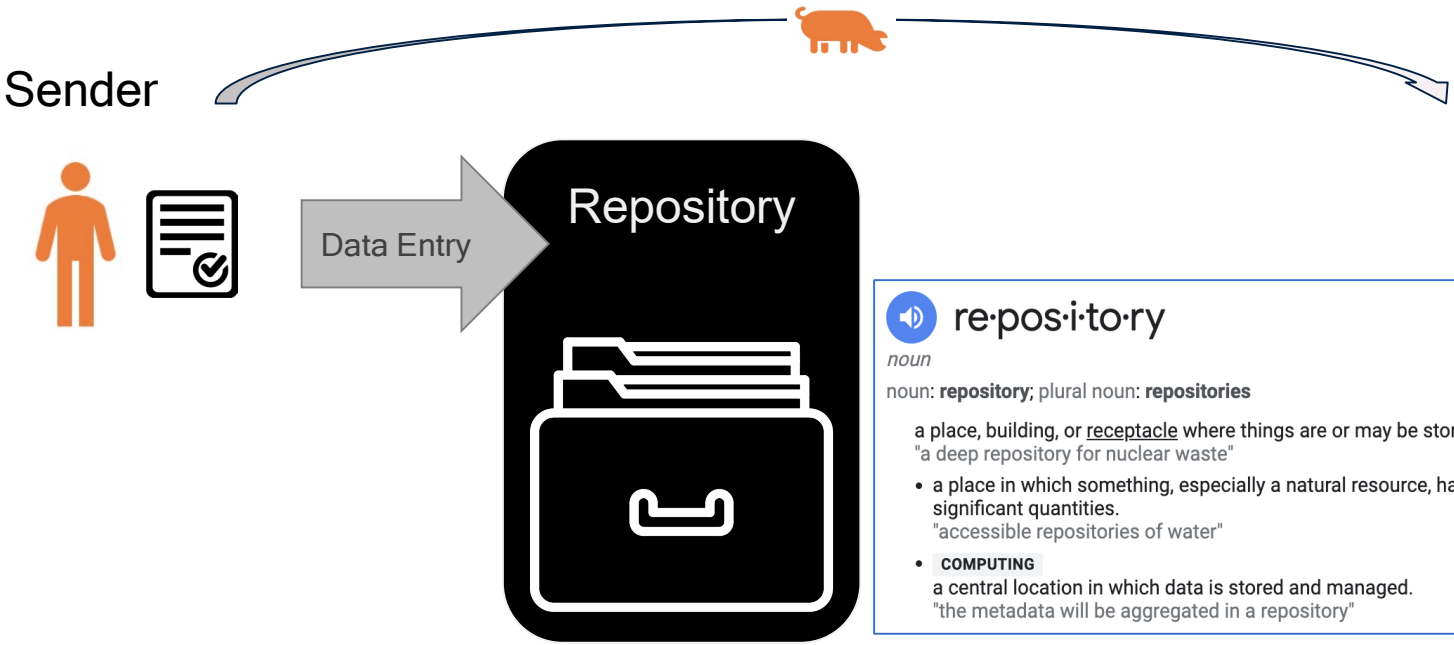
Governance

Who can access the data? When can they data access it? What purposes can the data be used for? How do changes to process happen? How is the process enforced? How do we know the process is being used and is working?

Generic Traceability System



Generic Traceability System



re·pos·i·to·ry

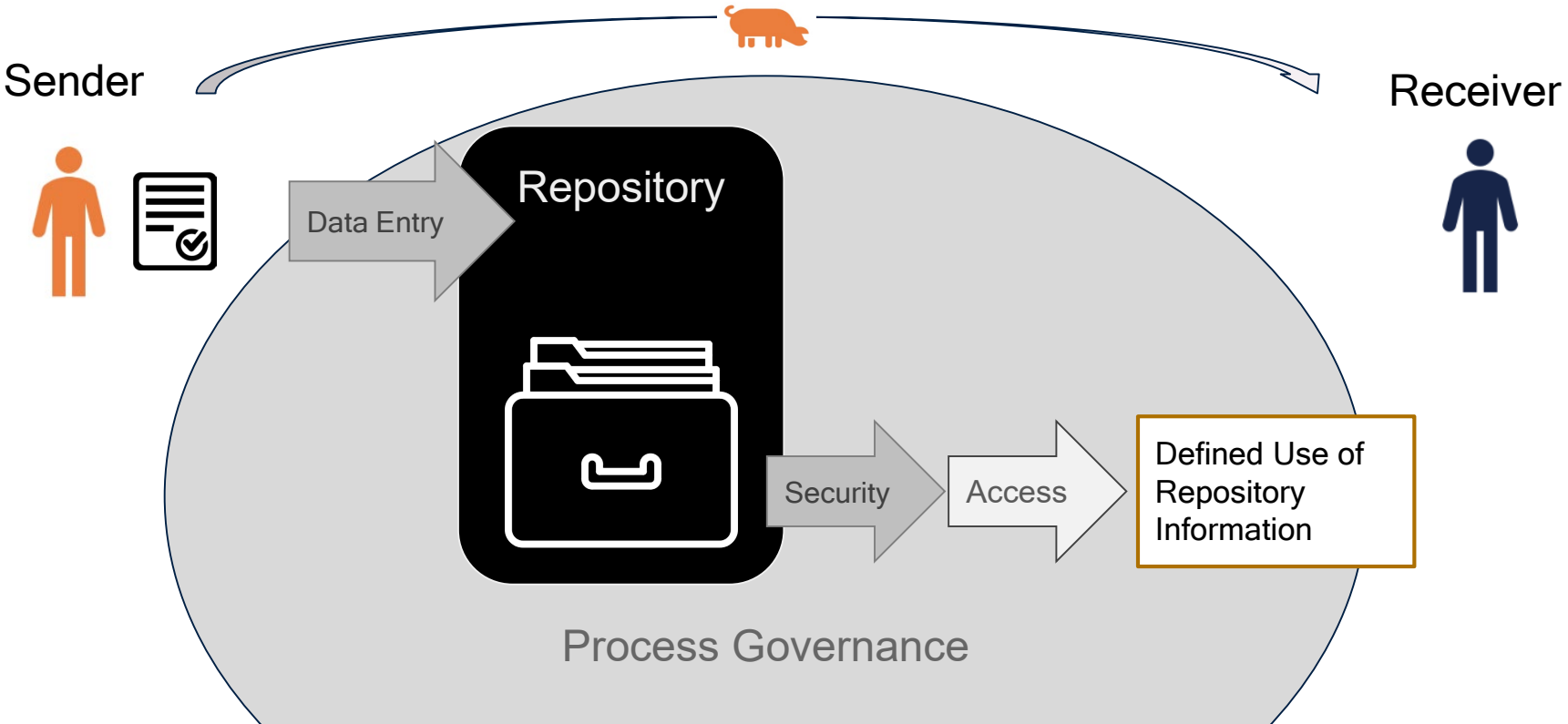
noun

noun: **repository**; plural noun: **repositories**

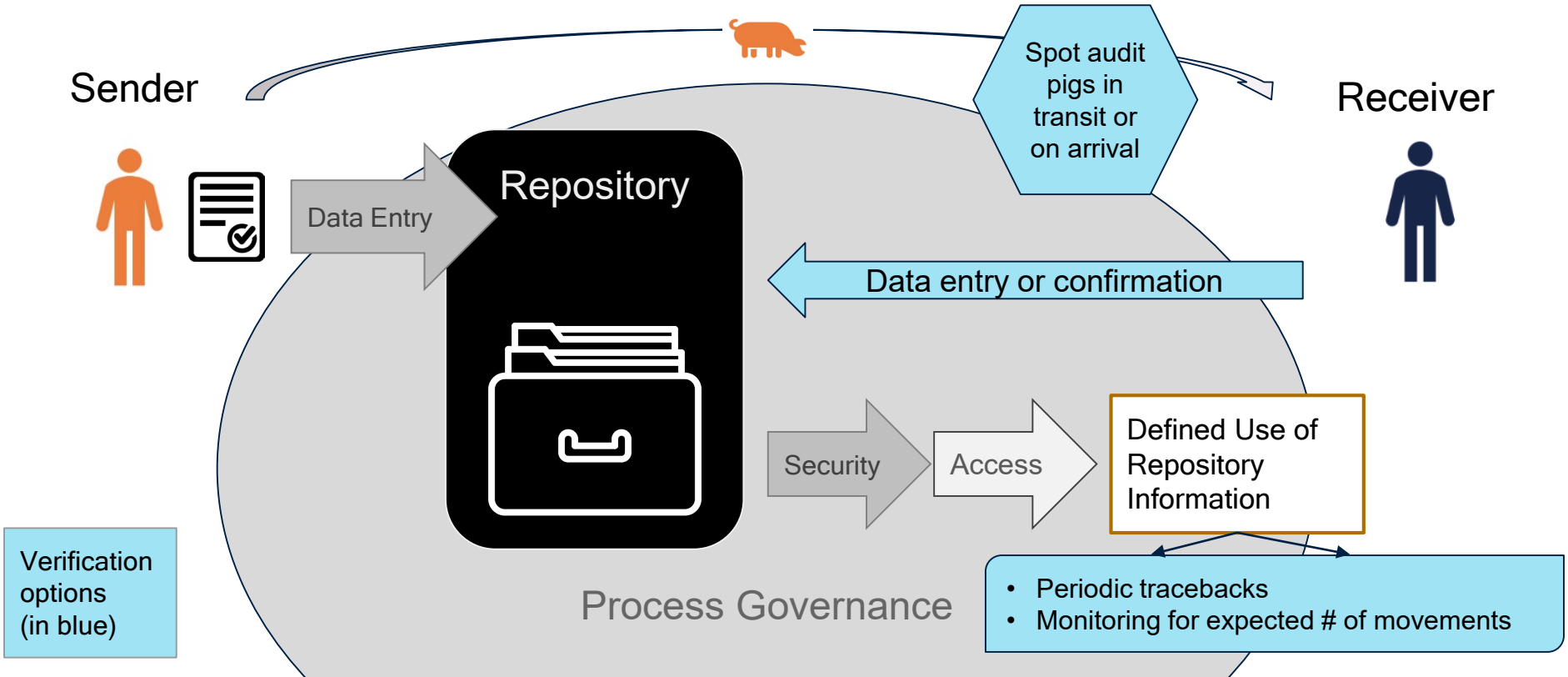
a place, building, or receptacle where things are or may be stored.
"a deep repository for nuclear waste"

- a place in which something, especially a natural resource, has accumulated or where it is found in significant quantities.
  "accessible repositories of water"
- **COMPUTING**
  a central location in which data is stored and managed.
  "the metadata will be aggregated in a repository"

Generic Traceability System



Generic Traceability System



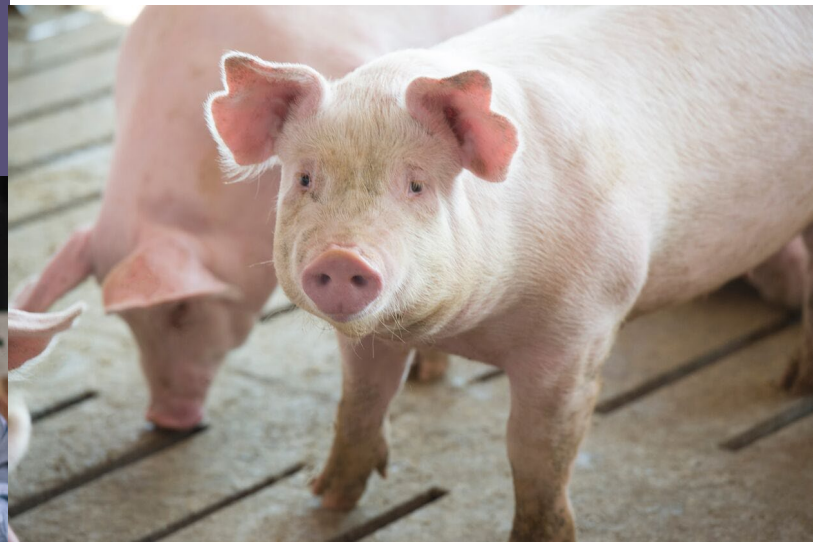
Existing Traceability Systems

Deep Dive

The Data

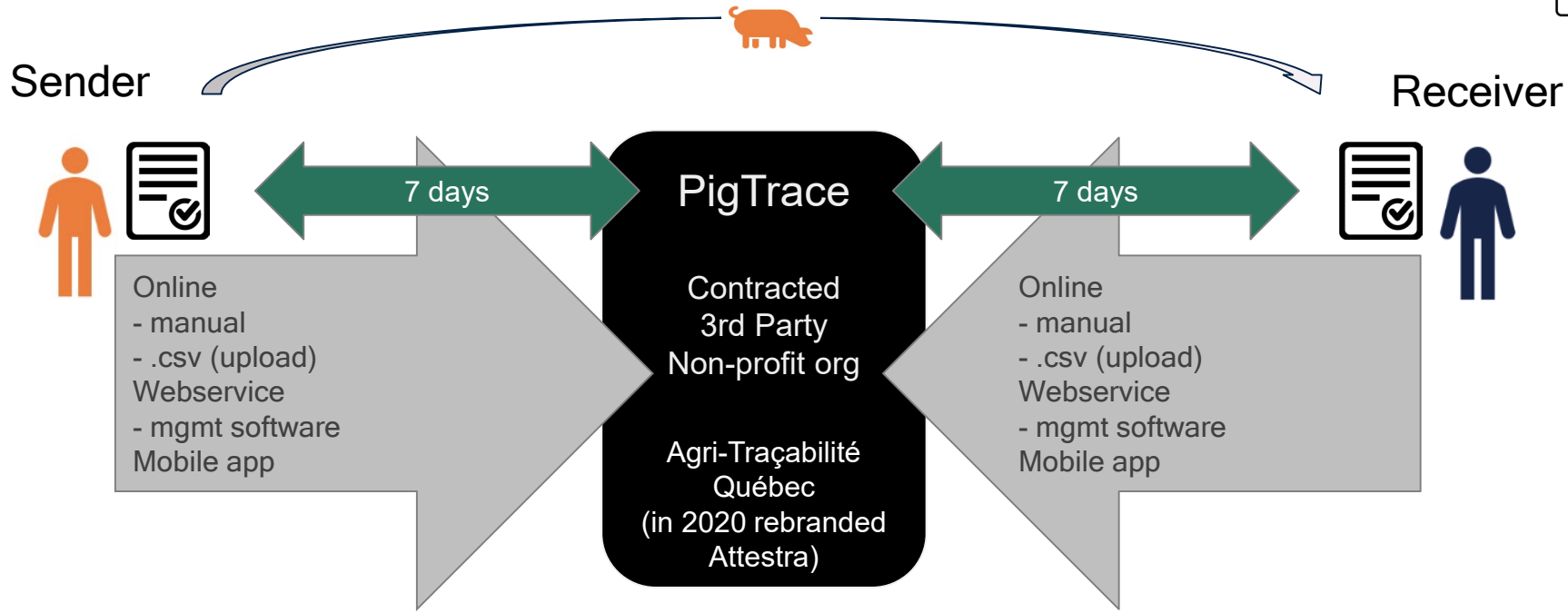
Data Entry and Management

Governance



Comparison of ‘The Data’

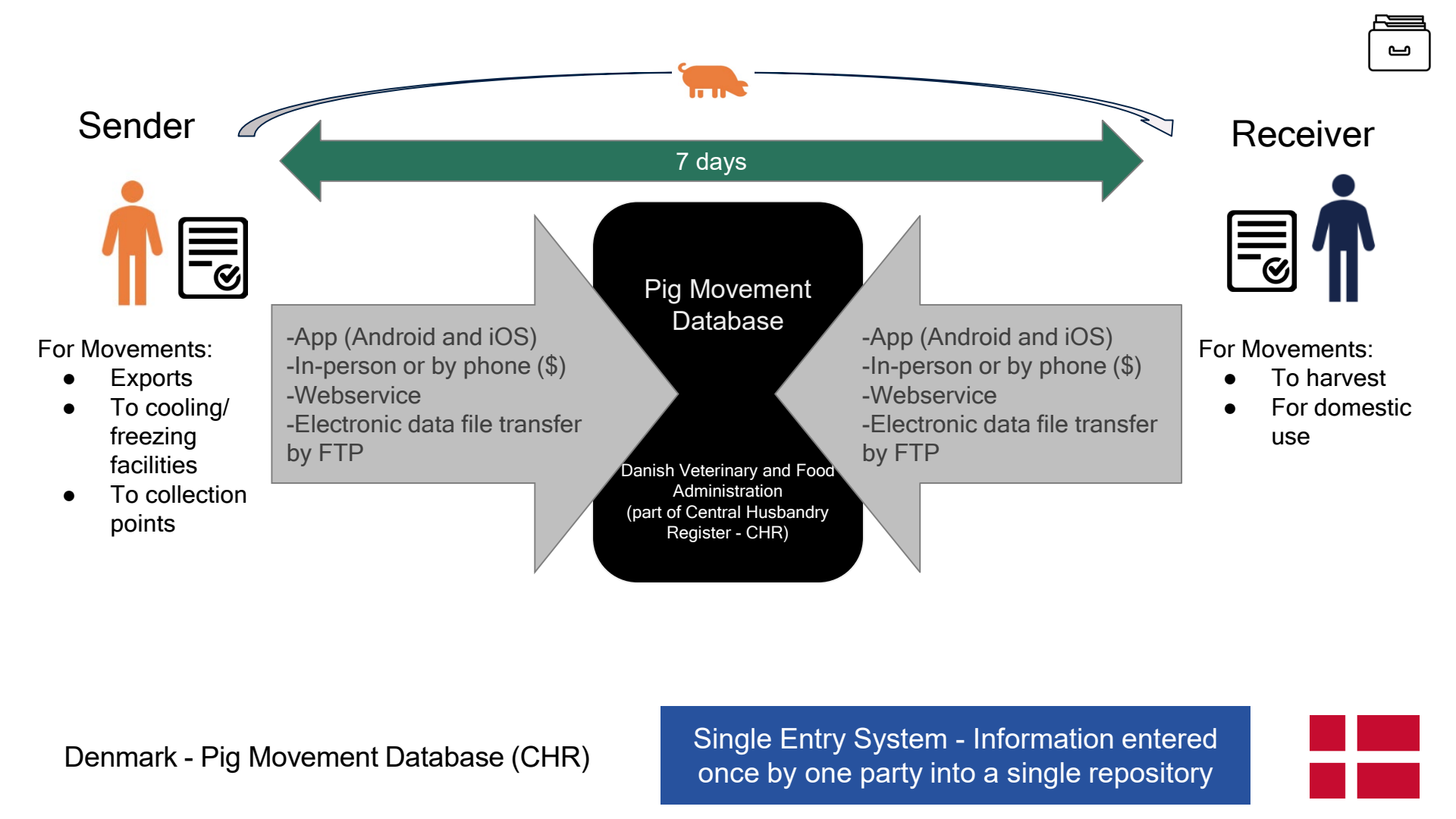
	Canada	Australia	Denmark	Brazil
Locations	Origin & Destination: ID	Origin & Destination: Name, Property ID, Address, Phone Origin: Name of person responsible for husbandry Destination: Type of facility, Signature	Origin & Destination: Country Code, CHR#, Address, Crew#	Origin & Destination: code, name, livestock exploitation code, Owners - CPF/CNPJ (taxpayer#), Owners name, Municipality and federation unit. Origin ONLY: symbol of establishments brand name
Date/Time	Departure OR Arrival date/time	Carrier: Load and unload date and time, Ambient Temp at load	Date of report	Date of issue
Vehicle Info	License Plate	Carrier: Registration number, Y/N trucks clean, Name, Signature, Phone	Country Code Registration # on carriage & trailer + any trailer used for trans shipment	
Animal Info	# loaded OR unloaded ID’s if applicable	#, Gender, Type, Duration on Origin property, Withholding period Information	# Animals or Deadstock	#, gender, age or category, aptitude and product when applicable, purpose of transit
Reporter			Logon ID	ID, place of issue



Notes:
- Linked premises may enter movements 1x/month

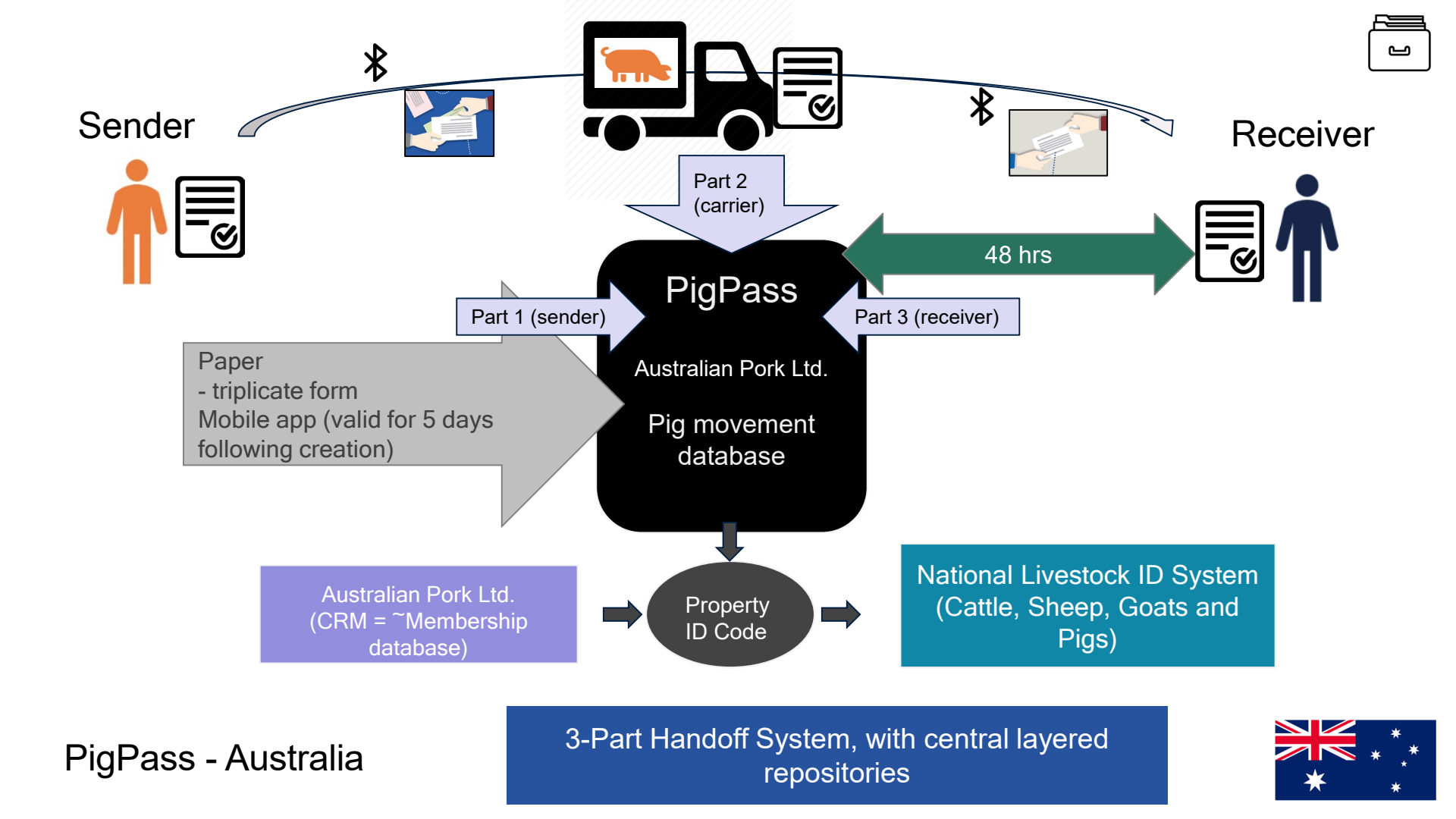
Canada - PigTrace

Double Entry System - Both parties enter the same information in a single repository



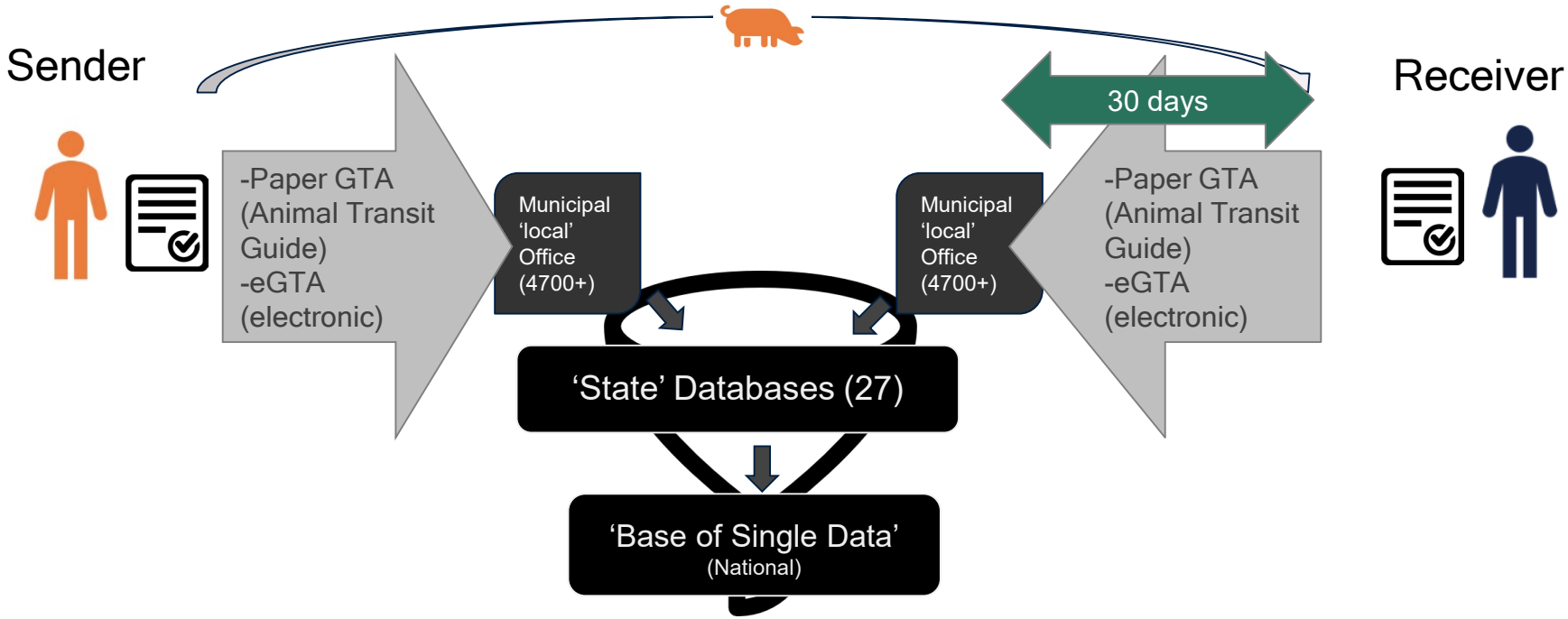
Denmark - Pig Movement Database (CHR)

Single Entry System - Information entered once by one party into a single repository



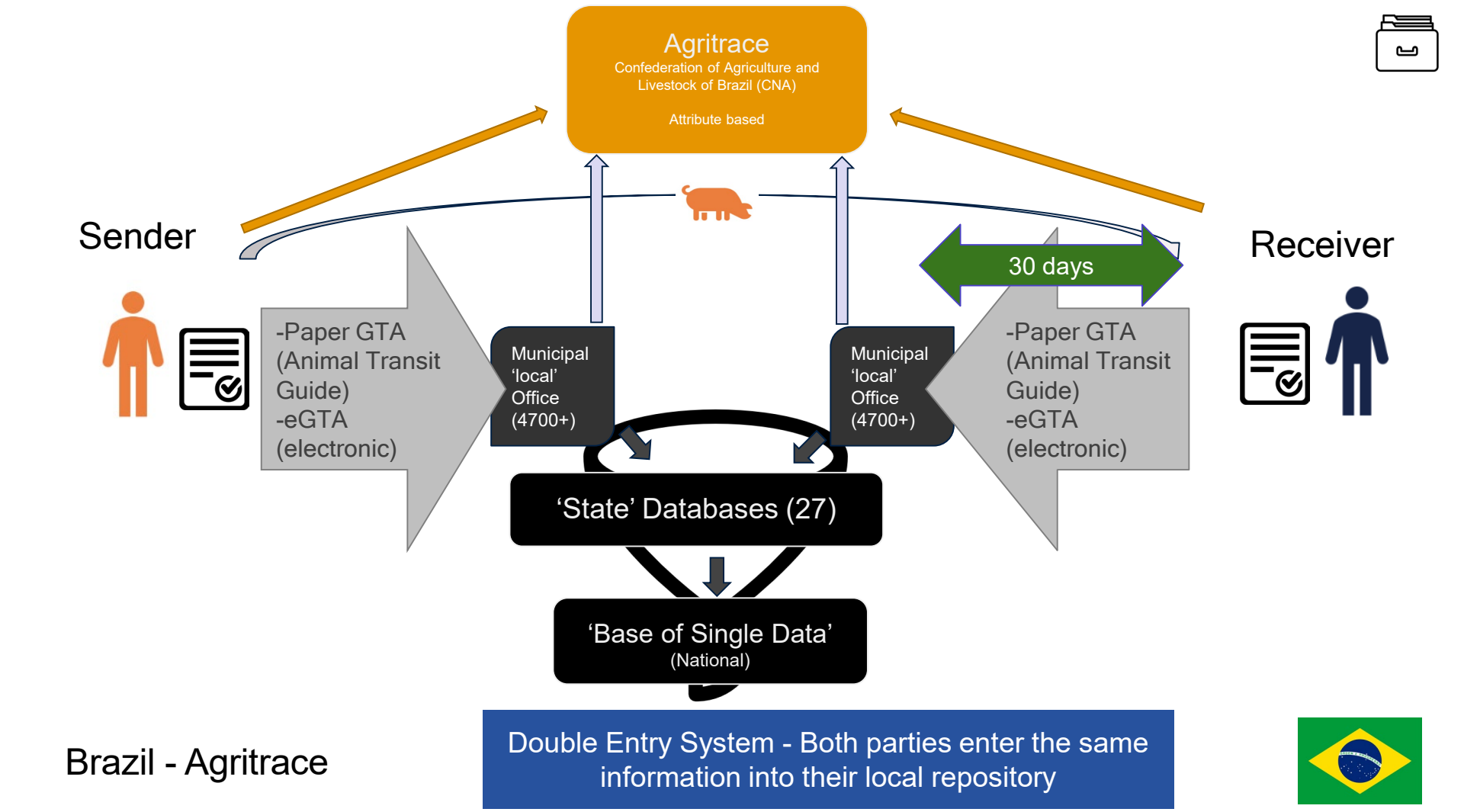
PigPass - Australia

3-Part Handoff System, with central layered repositories



Brazil - AgriTrace

Double Entry System - Both parties enter the same information into their local repository



Brazil - Agritrace

Double Entry System - Both parties enter the same information into their local repository

Compare and Contrast
Data Entry and Management

- Multiple Routes
  - Some type of electronic entry
  - Frequently have alternative methods
    - Batch entry for large numbers of movements
    - Phone/forms for rare movements

- Entry Schemes
  - Double entry (Canada and Brazil)
  - Single entry (Denmark)
  - Hand-off entry (Australia)
- Time from move to entry: 2 - 30 days

Compare and Contrast
Data Entry and Management

- Multiple Routes
  - Some type of electronic entry
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    - Phone/forms for rare movements

- Entry Schemes
  - Double entry (Canada and Brazil)
  - Single entry (Denmark)
  - Hand-off entry (Australia)
- Time from move to entry: 2 - 30 days

- Storage
  - Movement data ends up in 1 repository that national animal health officials can access
  - Movement data may pass through 1+ other repositories
    - For local and state use (Brazil)
    - For industry association use (Australia)
  - Movement data may be duplicated and augmented in non-govt based repositories for other trade needs

Governance - Security

Who can access and why?

Canada	Australia	Denmark	Brazil
Who? Federal inspectors Provincial inspectors, with agreement Law enforcement, with cause.	Who? Australian Pork Ltd. (which grants access to others)	Who? Authorities Public Registered producers Registered users	Who? Local officials State officials Federal officials CNA
Why? - To administer the program. - To verify compliance to the program. - To enforce requirements.	Why? - To manage emergency disease outbreaks or food safety events - To track industry production volume trends - To verifying levy payment accuracy as a service to Govt stakeholders. - To operate and maintain the database	Why? - For contact tracing - For enforcement - To obtain animal density - To make understand import and export countries - To enter, edit or delete own movements - To research movements with a known CHR number (does not return phone, email or physical address)	Why? - For contact tracing - For program administration - To make available reports and information of public interest related to Brazilian agribusiness - To certify product meets customers desired quality attributes

Governance
Checks and Balances

- Estimates of number of producers participating
- Provincial outbreak simulations

- Automatic control systems for validation with follow-up procedures
- One time/year, confirmation or correction of CHR information

- QA programs require participation in PigPass
- Unique serial ID for each National Vendor Declaration (pig trade/movement doc)
- **$** - System aids in verifying Govt levy payments
- **$$** - Abattoirs (receivers) are required to have complete documentation

- Compliance is regularly checked by independent inspectors
- Over 4,700 local agricultural health offices are responsible for the regular update of farms' registration, proper documentation and timely vaccination.

Traceability System Takehomes

The goal of traceability system is to build trust.

Perfection is not required, but participation is.

- Traceability is a blanket term and can have different contexts (ex: Logistics, Attribute, etc.)
- Traceability systems have 3 key components:
  - The Data
  - Data Entry and Management
  - Governance
- Of the traceability systems evaluated:
  - All 4 had a single repository that federal animal health officials could access
  - Some also had other repositories for different uses
- Understanding and balancing the needs/wants of all stakeholders is critical for the success of any system.

What I hope you leave with…

Based on this research:

- There is a need to clarify the definition of traceability
- There is no one model or recipe to achieve traceability
  - The purpose of a traceability system may vary
  - The building blocks are generally the same
  - The architecture varies
- The rationale is to create trust with the ‘consumer’
  - Participation is key

Erin Lowe

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US SHIP - Traceability Systems Research

Traceability in other pork export countries

A national certification program for safeguarding and bettering swine health

U.S. SWINE HEALTH IMPROVEMENT PLAN

US SHIP Sampling & Testing

General Session

Focus: Peacetime ASF/CSF Risk Level 1

(US Free / Negative)

R Main & M Paustian

Resolution 2022-7: Peacetime Sampling

The U.S. SHIP House of Delegates supports moving forward with efforts to determine the need for active surveillance within the program. The primary objectives of these efforts will be to further evaluate opportunities associated with the USDA-APHIS CSF/ASF case compatible submission program, explore a potential program standard where US SHIP enrolled sites will be required to include a premises identification number (PIN) on every lab submission, continue to evaluate opportunities to expand surveillance options, including oral fluids and others and explore options to initiate a pilot project to begin active surveillance.

The sub-committee shall be producer-led with advisement by a practicing veterinarian, APHIS import/export staff, APHIS Swine Health Team, CEAH, state animal health official, the National Animal Health Laboratory Network, and APHIS-FADDL staff.

The sub-committee will provide an update with recommendations for implementation of active surveillance at the 2023 House of Delegates Meeting.

Working Group On Peace Sampling

- Chair: Mike Paustian, Producer, Walcott, IA
- Co-Chair: Howard Hill, Producer, Cambridge, IA
- Facilitative Support: Rodger Main – US SHIP Sampling & Testing
- Participation / Contributions ~ 25 people representing pork producers, practicing veterinarians, SAHOs, and USDA.

Approach Taken:

- 2 Preparatory Virtual Meetings (February)
- 1 Hybrid (Face to Face & Virtual) at NPB Office (March)
- 1 Wrap-Up - Virtual with all US SHIP Sampling &Testing (May)

Principle Options Considered

1. Establish a means for linking the current USDA ASF/CSF active surveillance of case compatible submissions to VDLs to be incorporated into US SHIP ASF/CSF Monitored peacetime surveillance.

2. Establish a state level testing requirement for ASF/CSF surveillance requiring for a minimum specified percentage of the commercial-scale premises to be tested (sampled) per year.

3. Modify current US SHIP sample collector requirements (i.e., samples to be collected under the guidance and direction of an accredited/licensed veterinarian) to include requiring sample collectors to be certified as a (Tier I or Tier II Sample Collector) in accordance with the recently developed Certified Swine Sample Collector (CSSC) program.

4. Establish a premise level testing requirement requiring specified Production Site Types to test a minimum number of targeted pigs/pens per year.

Recommendation forth for consideration:

- **Program Standard: 2023 – 6** (p. 30): Program Administrative Requirement: Incorporating Use of USDA ASF/CSF Active Surveillance of Case Compatible Submissions to Veterinary Diagnostic Labs Into the US SHIP ASF/CSF Monitored Certification Program.
- **Resolution: 2023 – 4** (p. 43): Developing a Pathway for Incorporating the USDA ASF/CSF Active Surveillance of Case Compatible Submissions to Veterinary Diagnostic Labs into US SHIP Sampling and Testing.
  - Initial Target / Focus: Peacetime = Risk Level 1, ASF/CSF not present in US

What Are "Case Compatible VDL Submissions"

"Sick Pig Submissions to VDLs"

- Clinical History
  - Increased mortality rate
  - Febrile – fever, lethargy, anorexia, depression, abortion
  - CNS symptoms – lameness, recumbence, paddling
  - Hemorrhage – antemortem, erythema, petechiae, hematoma, epistaxis

- Post-mortem lesions
  - Hemorrhagic lymph nodes or organs
  - Splenomegaly
  - Tonsil – erosions, hemorrhage, necrosis, and proliferation
  - Gastrointestinal – acute or chronic ulcers, button ulcers

Incorporating USDA ASF-CSF Surveillance of Case-Compatible VDL Submissions into US SHIP

Producers & Veterinary Service Providers

1. Identify Clinically Ill Pigs
2. Collect Samples
3. Submit to VDLs

Samples

Results

VDLs

1. Identify Cases Based on Clinical History
2. Conduct Testing
3. Report Results

Results

USDA

1. Receive ASF/CSF Test Records from VDLs
2. Use **PIN** in Test Records to Ping US SHIP Site Status Verification Database and Retrieve Site Status
3. Incorporate US SHIP Site Status into ASF-CSF Test Records.
4. Report Premise Specific Results to Appropriate SAHO & US SHIP OSA
5. Provide Aggregate (State Level) Summary Information to US SHIP Program Administration & US Pork Industry Stakeholder Audiences

Results

SAHO's & US SHIP OSAs

1. Receive Premises Specific ASF-CSF Test Records Of Sites Located In Their State

Key Aspects to VDL Submissions

- ☐ Adequate Case History
- ☐ Appropriate Samples
  - Spleen or Spleen Pulp Swabs
  - Lymph Node
  - Tonsil
  - Whole Blood or Blood Swabs
- ☐ Complete Premises Level Demographics (Minimum Requirements)
  - Site Name
  - Premises ID Number (PIN)
  - State

Proposed Program Standard

- Further Leverages & Improves Existing USDA ASF/CSF Active Surveillance Stream
- Creates a System of Real-Time Data Sharing and Connectivity
  - VDLs
  - USDA Laboratory Management System
  - US SHIP Site Status Verification Database
  - SAHOs & US SHIP OSAs
- Provides A Clear “Peacetime Surveillance Story” to Share
- No Additional Costs to Participants

Resolution Includes Raising Awareness Component

- The US SHIP House of Delegates requests the US SHIP Program Administration to work in partnership with US animal health and pork industry organizations to raise pork producer/veterinary practitioner/diagnostician awareness, understanding (how to), and participation in the USDA ASF/CSF Active Surveillance of US Swine via submission of case-compatible submissions to USDA NAHLN labs.

Sampling & Testing Break-Out Session

3:30 to 5:00 pm in Edina Room

I. **US SHIP Sampling & Testing (Overview) -** R Main, J Zimmerman
   - Scope & Purpose, Methodology, Current Standards
   - Participatory Surveillance – Modelling Outcomes

II. **Peace-Time Sampling Working Group -** M Paustian, N Humphrey, C Vanicek
   - Current Surveillance
   - Working Group Efforts & Recommendations (Proposed Program Standard & Resolution)

III. **Proposed- Piloting Activation of US SHIP Testing Among Subset of Participants -** J Brown

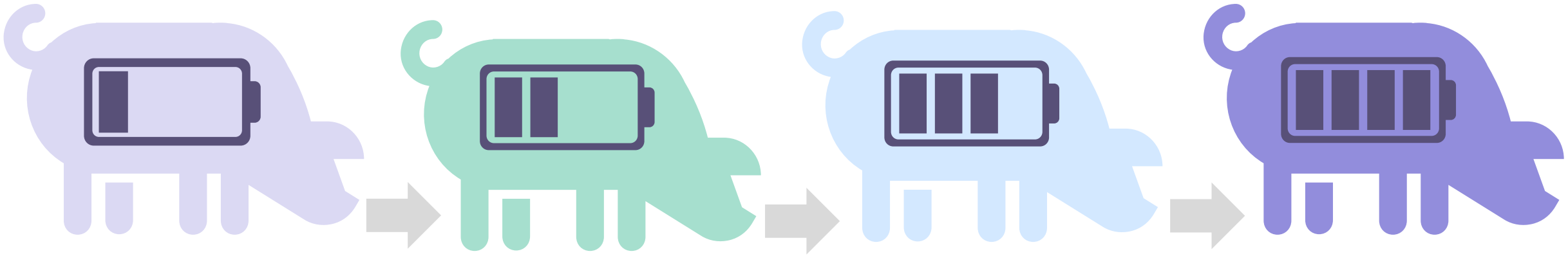
IV. **Recent USDA Oral Fluids Seminar Series -** R Holland

US SHIP Site Status Verification Database

Giovani Trevisan

A national certification program for safeguarding and bettering swine health

US SHIP Enrollment & Certification



Contact your Official State Agency (OSA) to get the correct State-specific forms

Complete your forms & submit the biosecurity survey

Pursue certification

Stay engaged in the process

Steps for Enrollment & Certification

	Enrollment	Certification
Participant, Animal owner, Site address & demographic information	✓	✓
Acknowledgment of Participant Understanding & Compliance	✓	✓
Complete Biosecurity Survey	✓	✓
Valid VCPR.		✓
Provide at least 30 days of animal movement data (electronically).		✓
Completed SPS Biosecurity Site Plans		✓
Comply with Feed biosafety standards		✓
Ability to demonstrate compliance with testing requirements		✓
5 days downtime for visitors from ASF + country		✓

Packing Plant Enrollment & Certification

	Enrollment	Certification
Participant, Animal owner, Site address & demographic information	✓	✓
Acknowledgment of Participant Understanding & Compliance	✓	✓
Complete Biosecurity Survey	✓	✓
Provide at least 30 days of animal movement data (electronically).		✓
5 days downtime for visitors from ASF + country		✓

Market channel Enrollment & Certification

	Enrollment	Certification
Participant, Animal owner, Site address & demographic information	✓	✓
Acknowledgment of Participant Understanding & Compliance	✓	✓
Complete Biosecurity Survey	✓	✓
Provide at least 30 days of animal movement data (electronically).		✓
Comply with Feed biosafety standards		✓
5 days downtime for visitors from ASF + country		✓

2022 HOD action item

Provide means of verifying the officially recognized status of US SHIP sites enrolled or certified in the program across the US.

Assigning US SHIP Site Disease Status

Page 63-65

Monitored Free

- To be used for ASF or CSF US SHIP certified sites*

Certification Expired

- The ASF or CSF-free certification is on hold for not complying with current program standards. It could affect either ASF, CSF, or both.

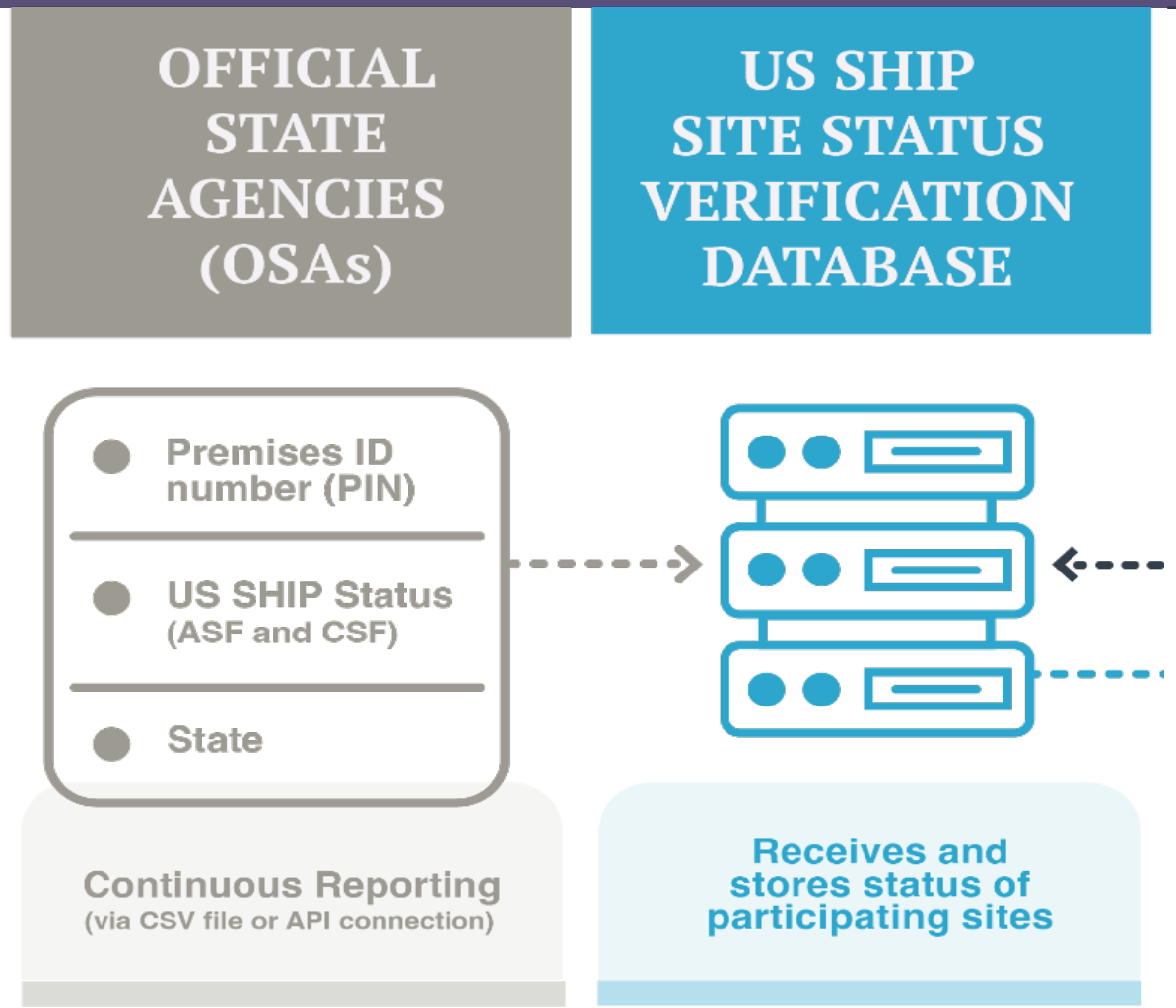
Inactive

- "Inactive" status could be used for several situations, such as:
  - For US SHIP enrolled sites* (not yet certified)
  - Certified sites when the site is going through a change in ownership and waiting for a re-statement of certification by the OSA.
  - Lost or revoked status (tested positive for ASF or CSF)
  - Sites that decide to drop out of US SHIP
  - Sites that never participated in US SHIP
  - Sites that participated in the US SHIP and went Out of Business

* https://usswinehealthimprovementplan.com/enrollment-requirements/

US SHIP Site Status Verification Database

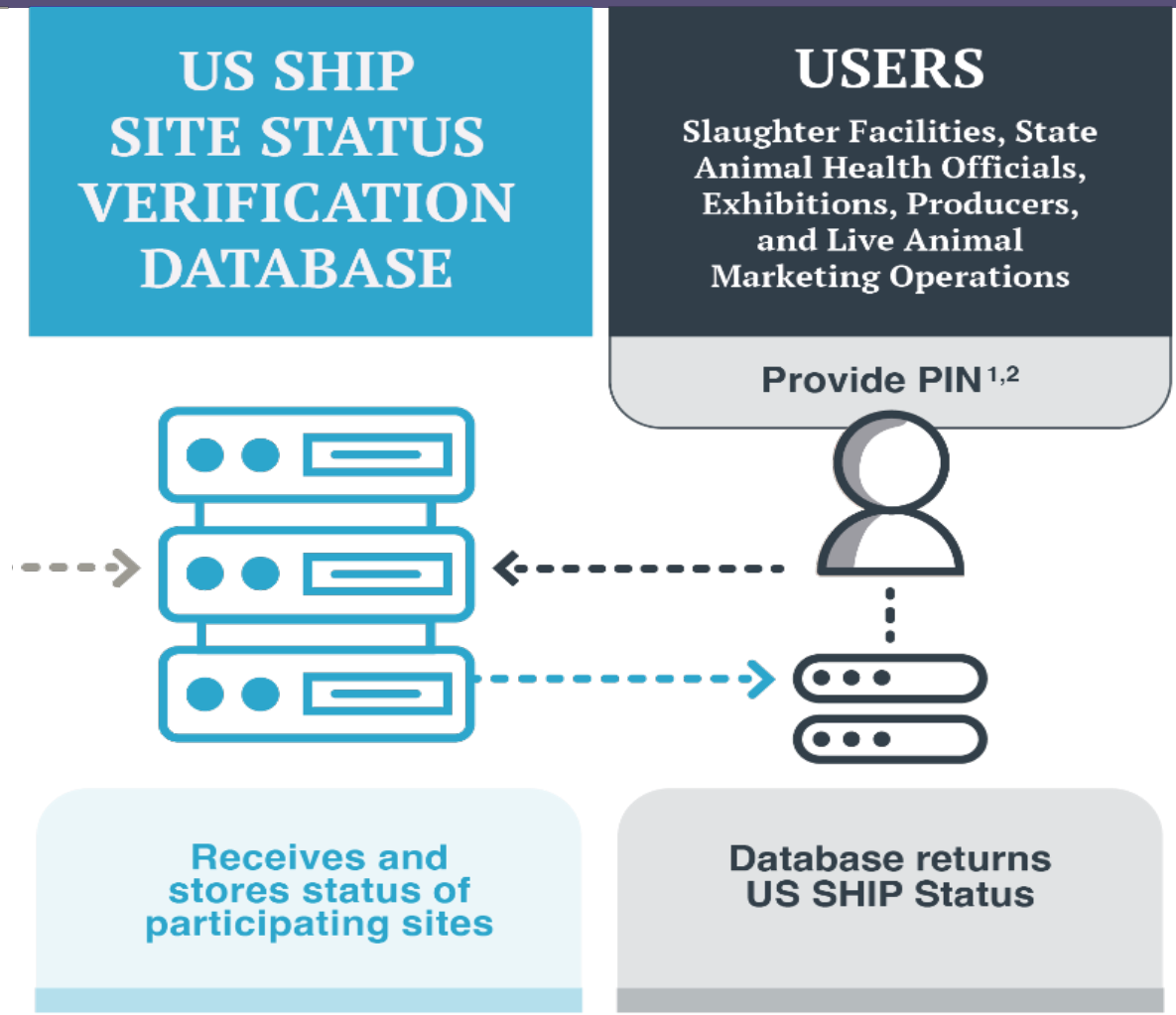
Page 63-65



[1] Non-Registered Users can provide one PIN and get status returned one premises at a time.
[2] Registered Users can provide multiple PINS and get status of multiple premises returned via CSV file or API connection.

US SHIP Site Status Verification Database

Page 63-65



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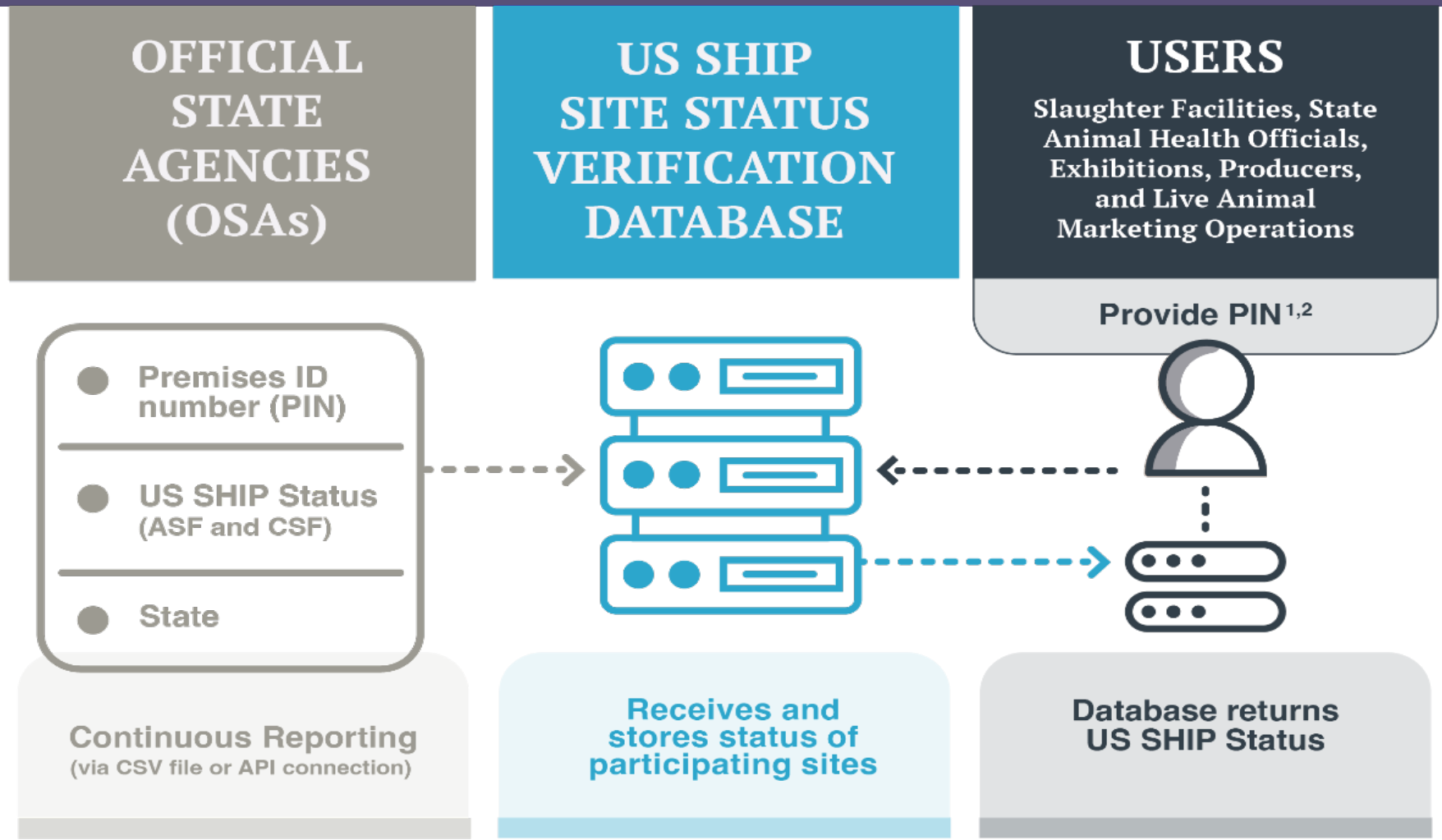
US SHIP Site Status Verification Database



[1] Non-Registered Users can provide one PIN and get status returned one premises at a time.
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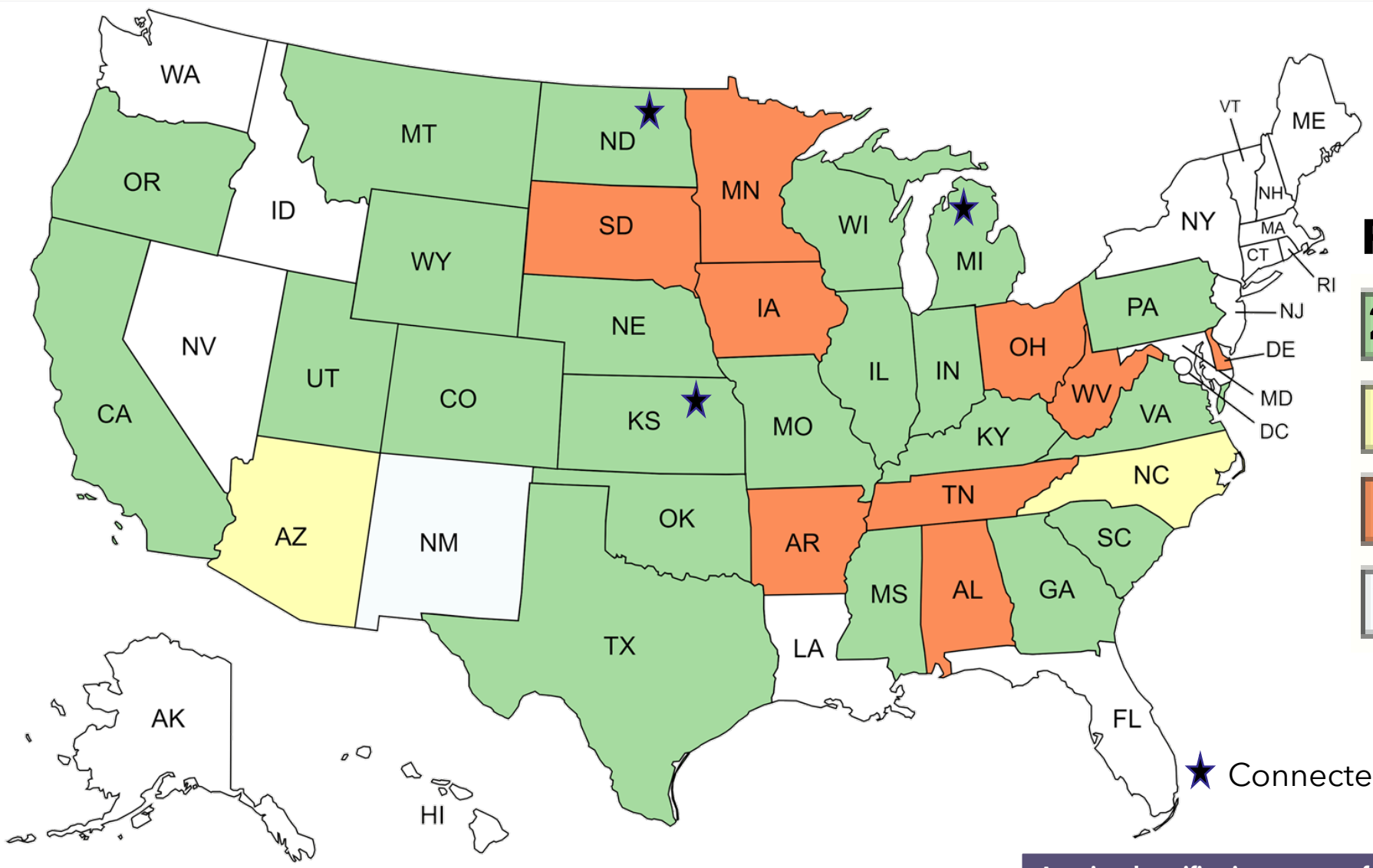
Page 63 -65

Site Status Database Implementation



Progress

22 reported states

2 created accounts

9 pending

17 not in US SHIP

★ Connected using AgView

A national certification program for safeguarding and bettering swine health

Proposed Program Standard

Page 27

UPDATE TO PROGRAM STANDARD NUMBER:	2023 – 5
SUBMITTED BY:	US SHIP General Conference Committee
SUBJECT MATTER:	US SHIP Official State Agencies (US SHIP OSA) requirement to report and keep the status of the US SHIP certifications held by the participating sites current in the US SHIP Site Status Verification Database.

Giovani Trevisan

trevisan@iastate.edu

Thanks!

Our Industry Challenge:
“To be the best in the world”

G D Spronk, J Nerem, S Dee

PIPESTONE
Helping Farmers

Progress is the goal, not perfection

Three Questions for SHIP delegates (With a challenge at the close)

- Can the US be the best swine industry in the world?
- If yes, how would we do that?
- Where do we start?

THREE GREAT QUESTIONS

and a challenge

Those who say it ***cannot be*** done should not interrupt those who are ***doing it.***

Defining “Best in the World”

- **Sustainable/Repeatable/Generational**
- Preferred supplier of “**number one protein**” to the world
- Model to the world of **economic/ethical/environmental** production

THREE GREAT QUESTIONS

and a challenge

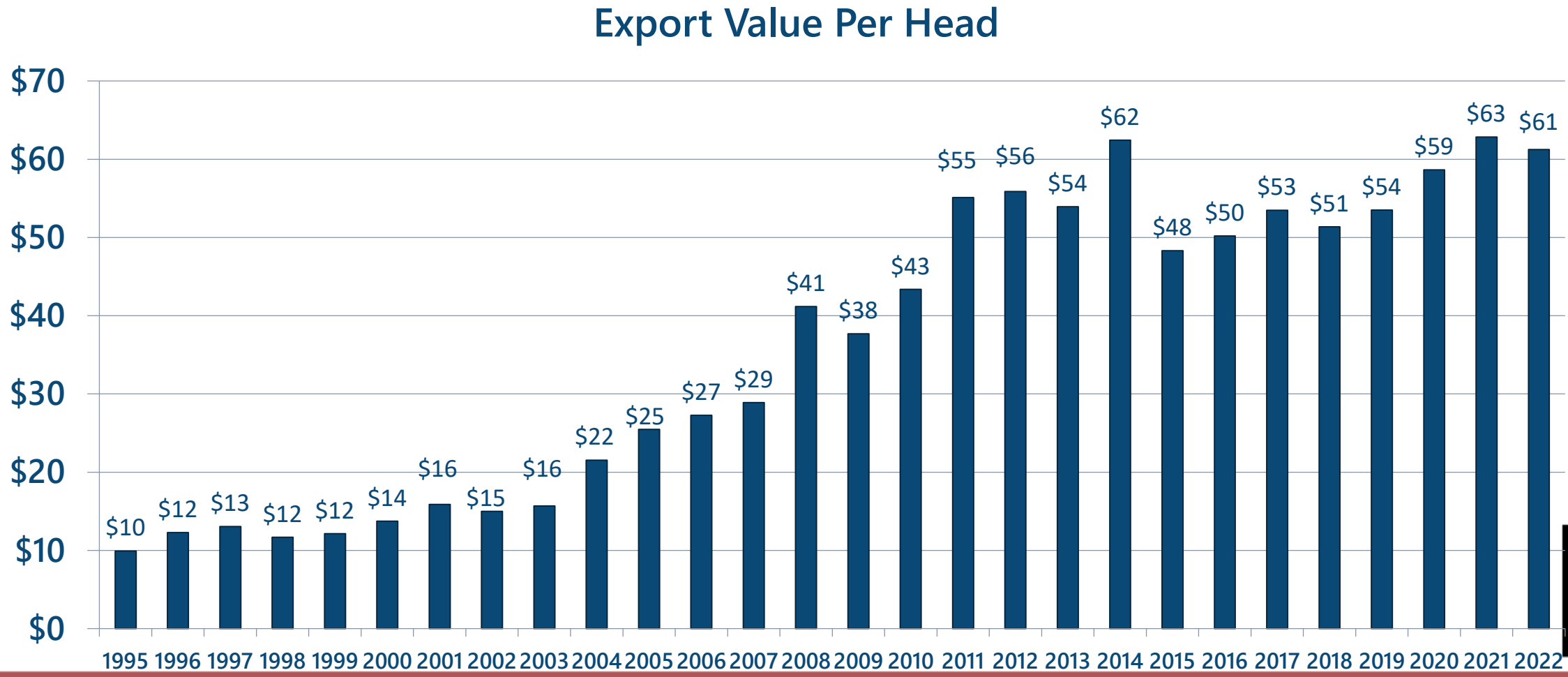
The structure of Worldwide industry: Sow Inventory by Country in Millions

THREE GREAT QUESTIONS

and a challenge

Value created when preferred supplier to the World

2018: $51.37, -4%
2019: $53.51, +4%
2020: $58.65, +10%
2021: $62.86, +7%
2022: $61.26, -2.5%



THREE GREAT QUESTIONS
and a challenge

Source: USDA/FAS, USDA/NASS Commercial Hog Slaughter, USMEF

Immediate value of SHIP

- Pathway to business continuity
- Platform to return to Trade & Exports
- Value to entire industry - “our village”

THREE GREAT QUESTIONS

and a challenge

3 Great Questions for SHIP HOD

Can the U.S. be the best swine industry in the world?

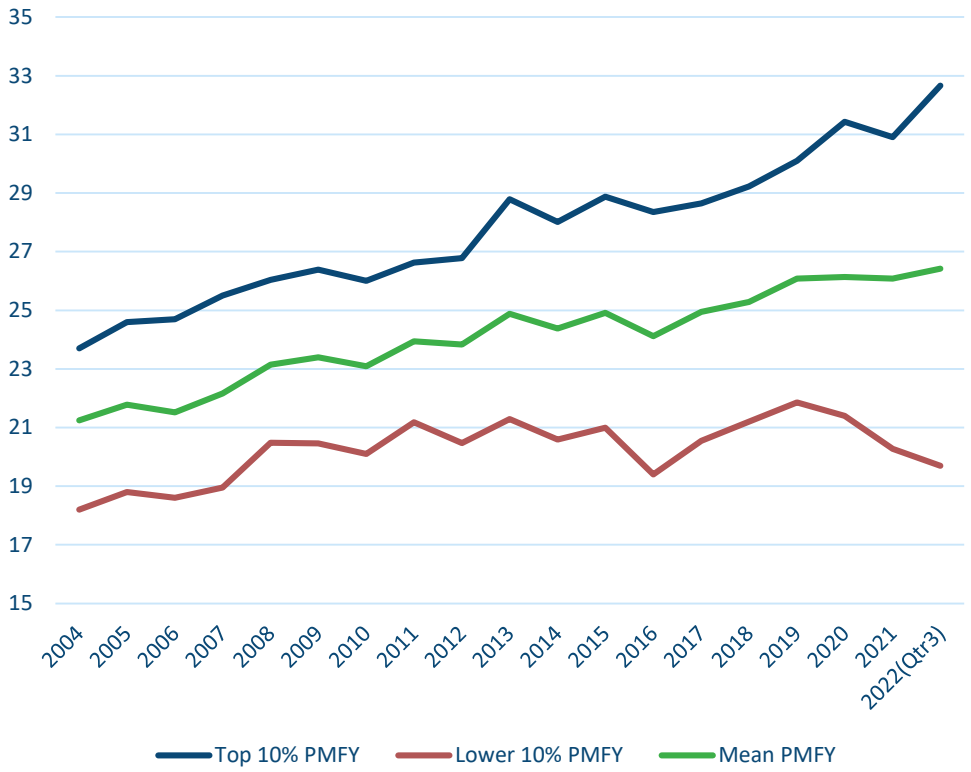
If yes, how would we do that?

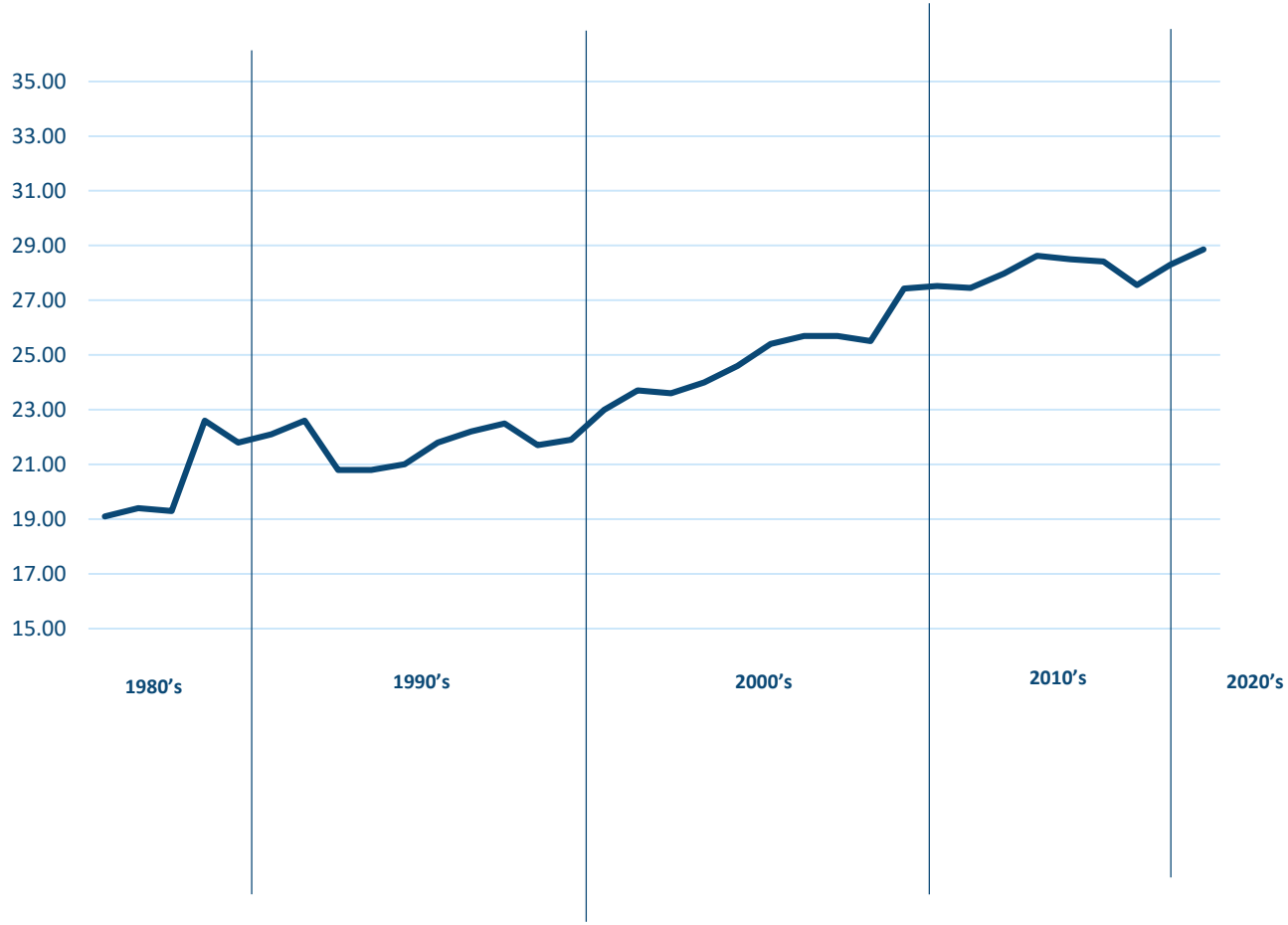
Where do we start?

THREE GREAT QUESTIONS

and a challenge

Industry productivity: Pigs Weaned/Mated Female/Yr



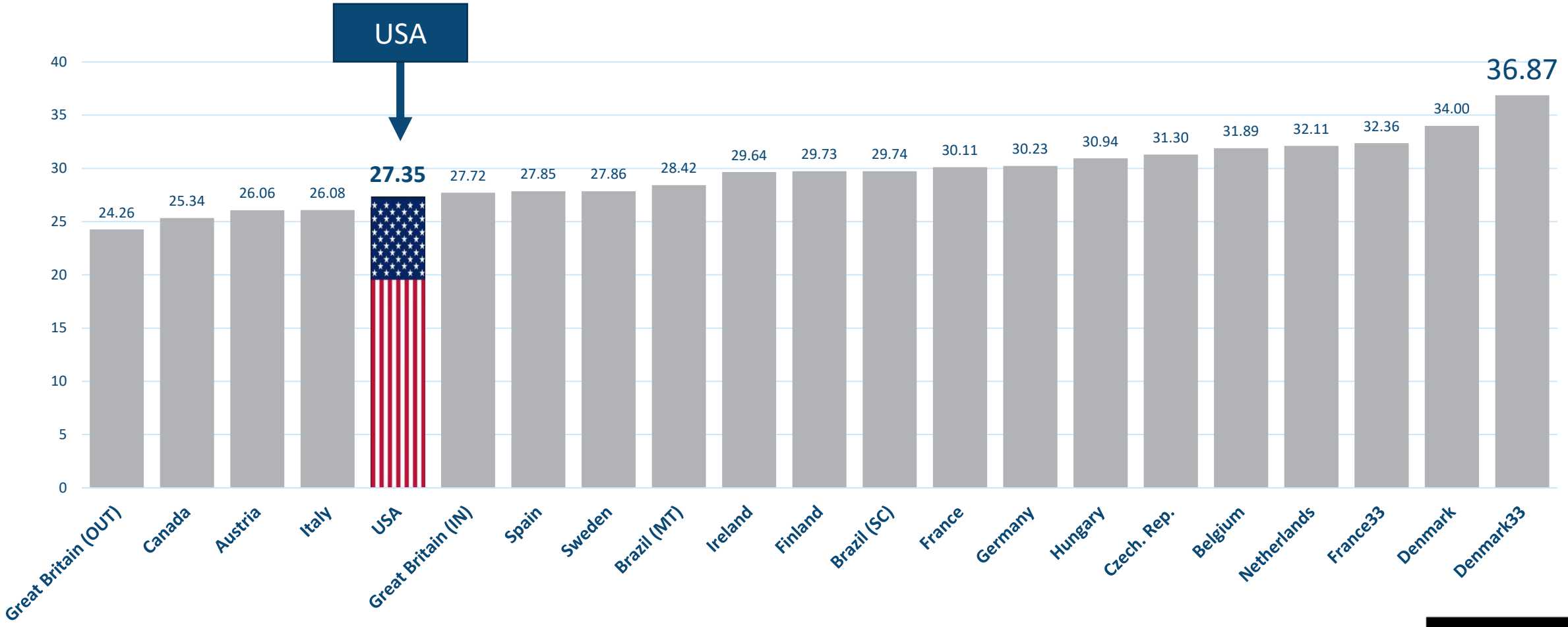


THREE GREAT QUESTIONS

and a challenge

SOURCE: PigCHAMP Annual Benchmarking Summaries and Pipestone internal data

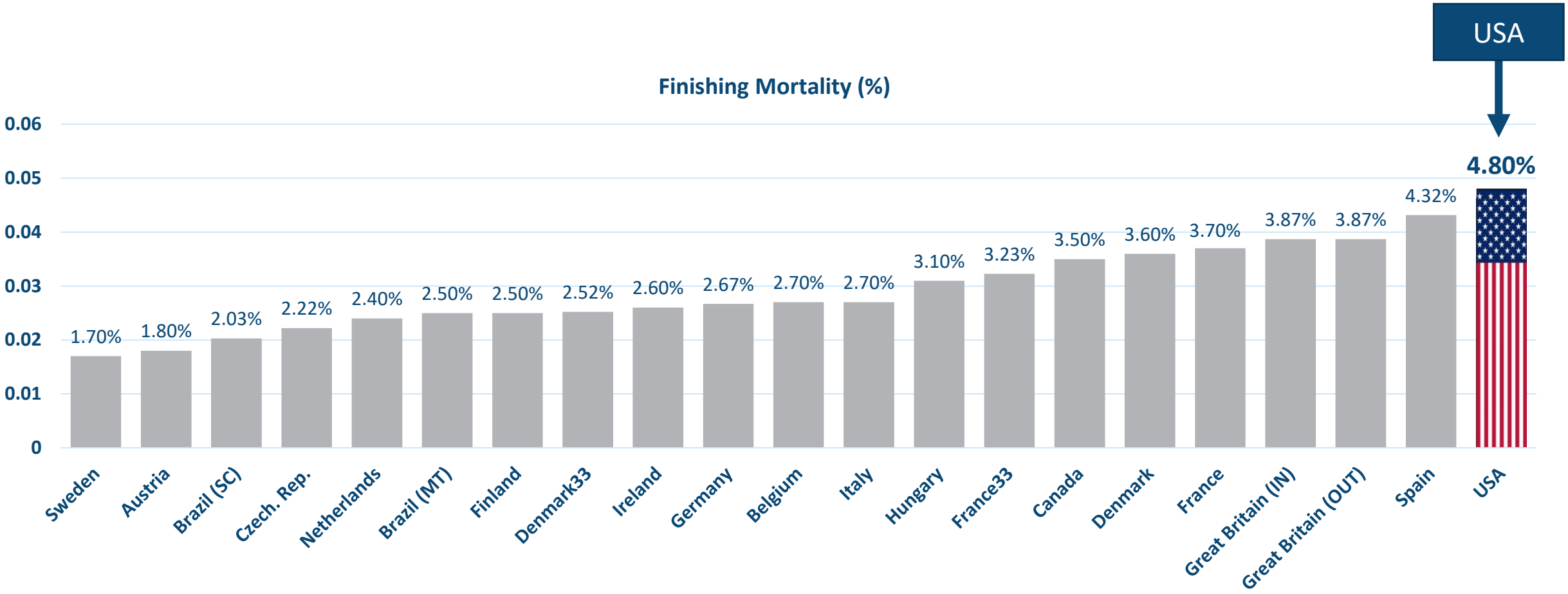
Pigs Weaned per Sow/Year



THREE GREAT QUESTIONS and a challenge

Holtkamp, DJ, Hayes, DJ, Schulz, LL. *Key Performance Indicators in Pork Production: An International Comparison Using 2020 Data.* Interpig OCT, 2022

Finishing Mortality (%)



THREE GREAT QUESTIONS

and a challenge

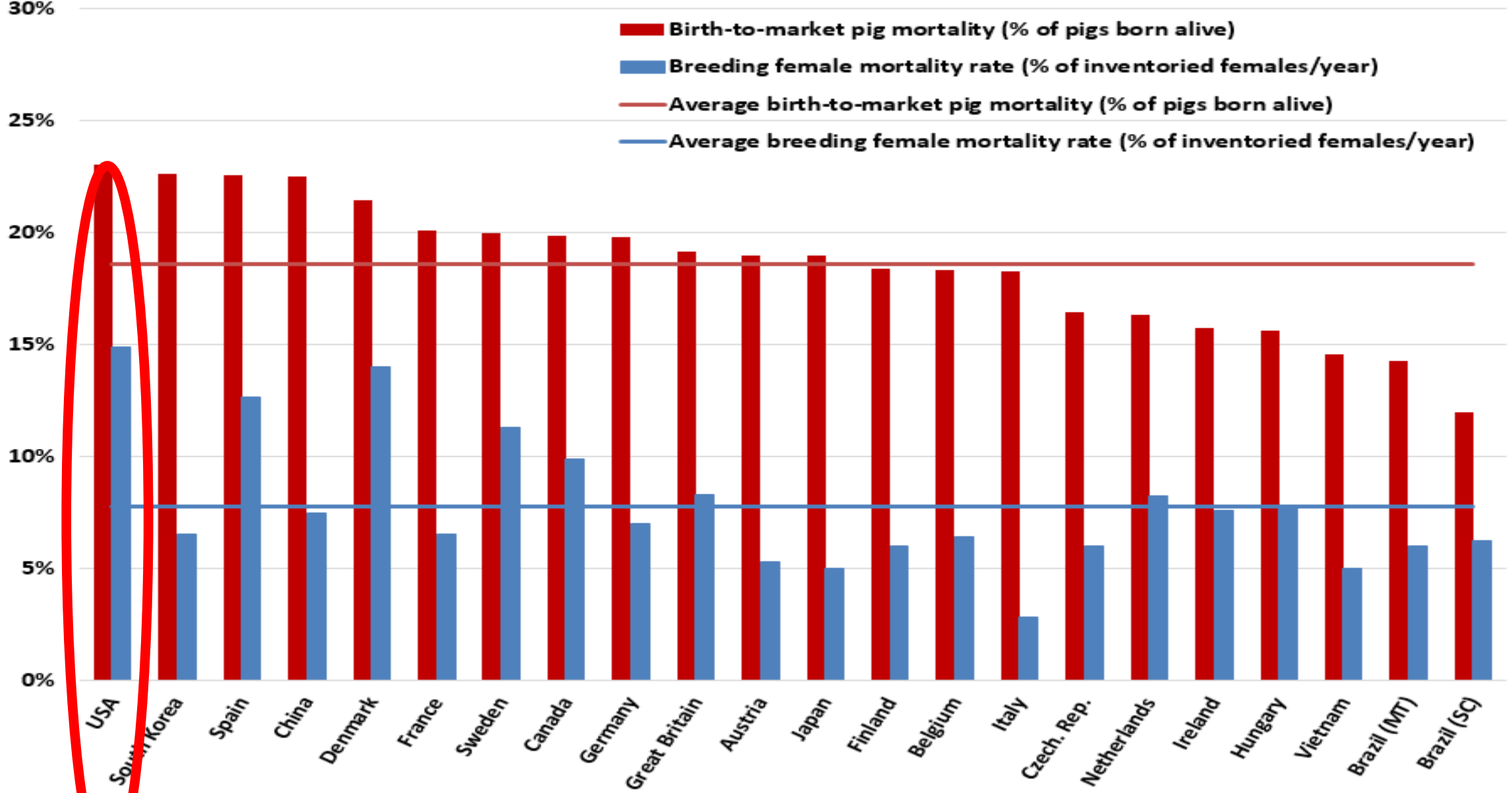
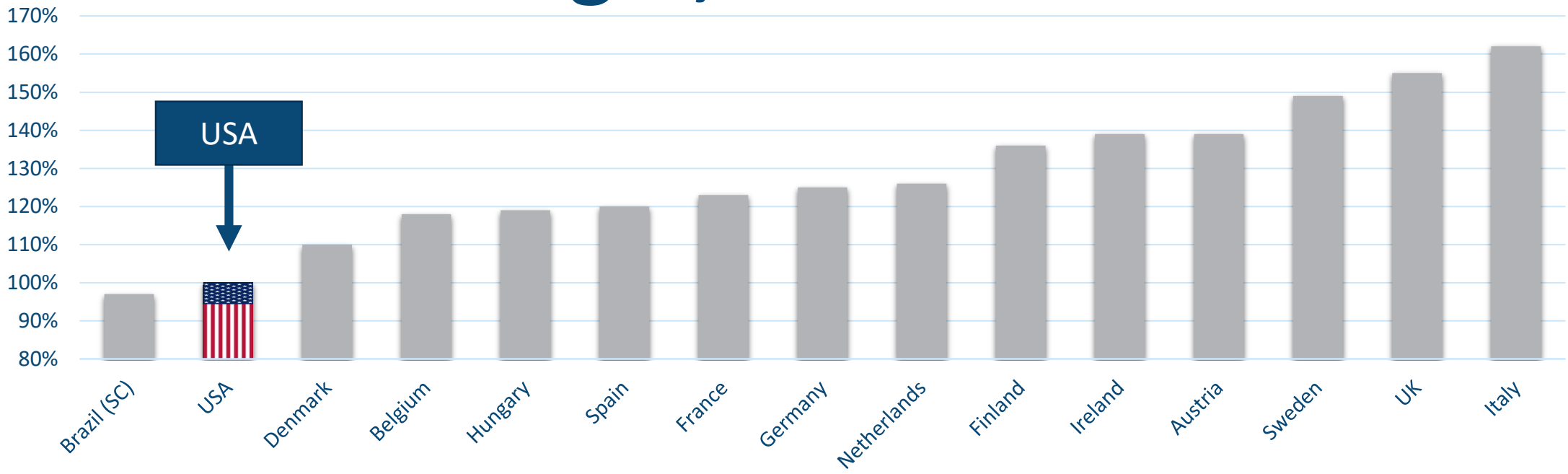


Figure 11. Mortality rates—2021

Cost of Production Relative to US Baseline, Cold Carcass Weight, 2021



THREE GREAT QUESTIONS and a challenge

Holtkamp, DJ, Hayes, DJ, Schulz, LL. *Key Performance Indicators in Pork Production: An International Comparison Using 2020 Data.* Interpig OCT, 2022

Plausible Conclusion:

We are failing our potential to be "best in the world"

Could we be?

THREE GREAT QUESTIONS

and a challenge

3 Great Questions for SHIP Delegates

Can the U.S. be the best swine industry in the world?

If you agree we could be best, how would we do that?

Where do we start?

THREE GREAT QUESTIONS

and a challenge

US Swine Industry
Top Ten Issues

1. Transboundary pathogens (keep them out!)
2. PEDV /Mycoplasma/PRRS National Elimination
3. PRRS/PEDV in Sows
4. PRRS in WTM
5. Feed cost/COP
6. Innovation
7. International Trade
8. Data collection and Analysis
9. Labor
10. Social License to operate

Bonus: Create and share value

THREE GREAT QUESTIONS

and a challenge

US Swine Industry
Top Ten Issues

1. Transboundary pathogens: (keep them out)
2. PEDV/Mycoplasma/PRRS: eliminate
3. PRRS/PEDV in Sows: wean a PRRS negative pig
4. PRRS in WTM: keep groups negative
5. Feed cost: stay competitive in the world
6. Innovation: implement most effective
7. International Trade: open more markets
8. Data collection and Analysis: Fourth generation revolution
9. Labor: Attract the 'best and the brightest'
10. Social License to operate: Sustainable

Bonus: Create and share value: price discovery

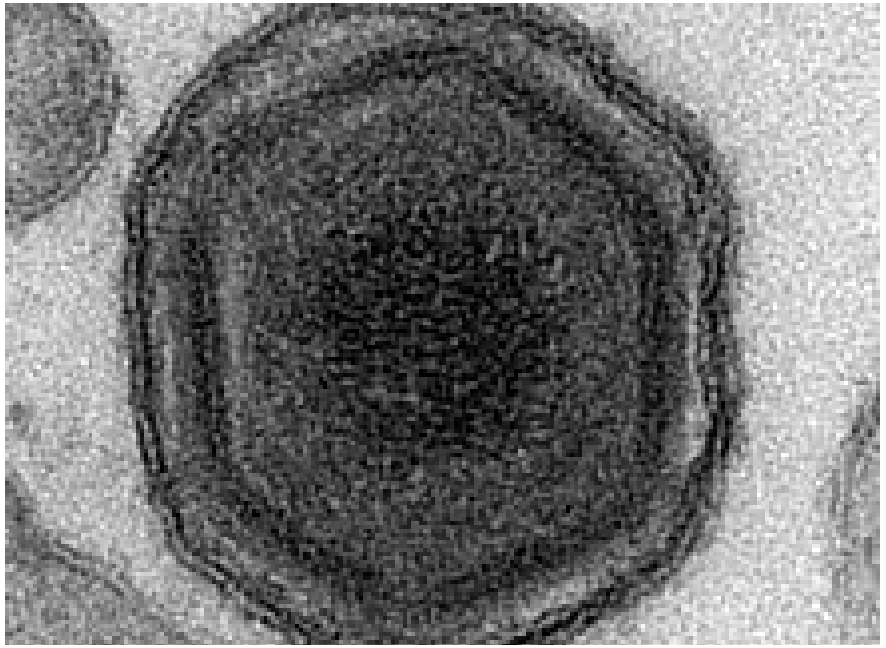
SHIP Focus here

THREE GREAT QUESTIONS

and a challenge

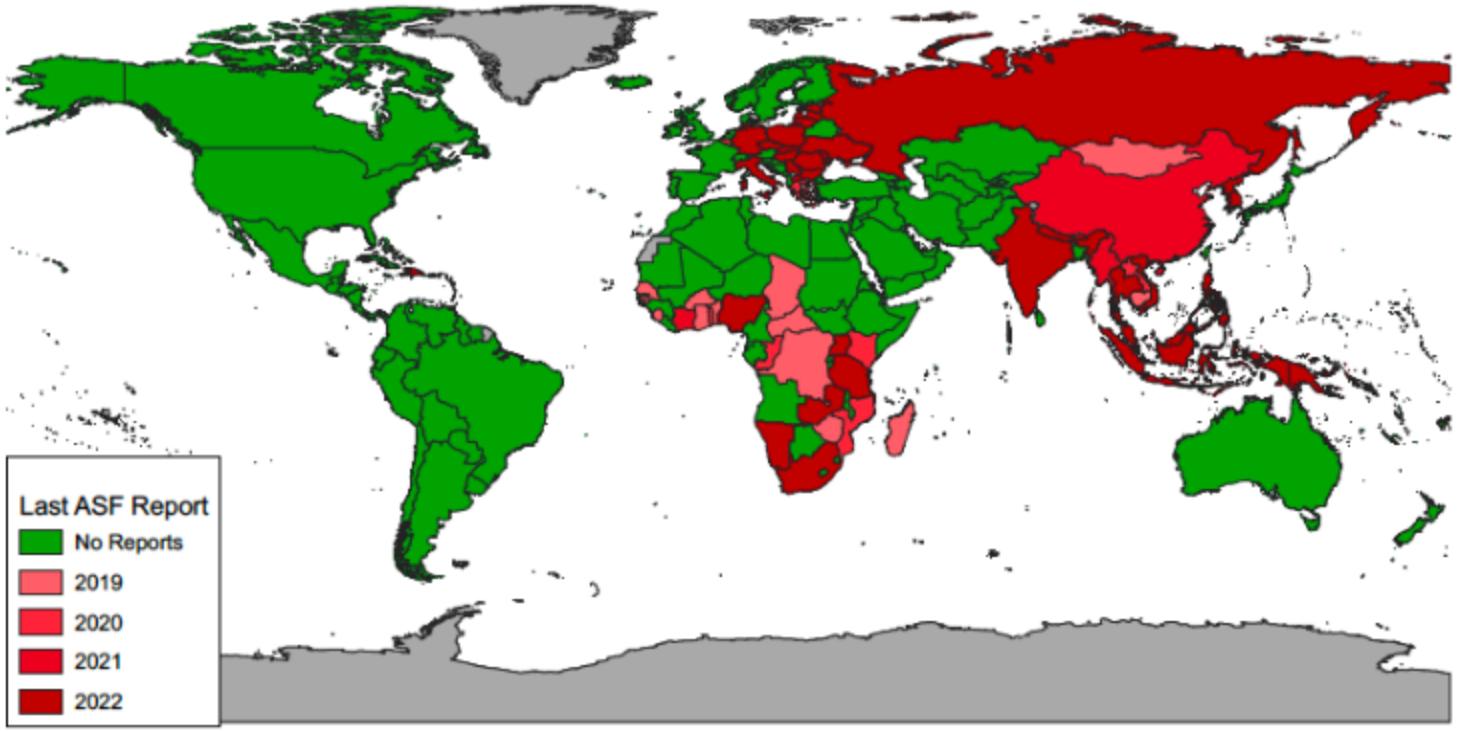
US Producer survey: What are the top three things needed in the US industry?

1. Keep FAD (ASF) out
2. Teach/Educate my staff o biosecurity
3. Eliminate Endemic pathogens



ISSUE #1
FAD/ASF: *Keep It Out!*

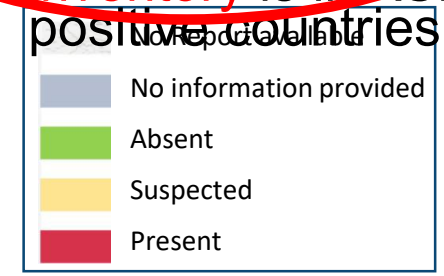
African Swine Fever



Global ASF status from cases reported between 2019 and December 2022.

Data resource: OIE WAHIS
WGS data: https://international.ipums.org

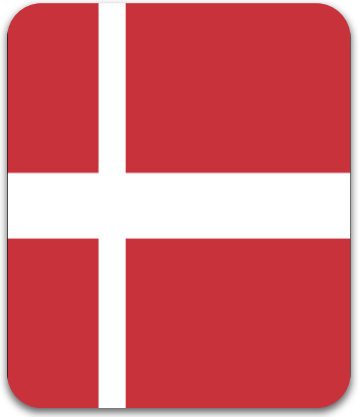
- June 2017 – 26% of sow inventory in ASF positive countries
- November, 2018- CHINA
- June 2022 – 43% of sow inventory in ASF positive countries
- 65-75% of entire global sow inventory is in ASF positive countries



THREE GREAT QUESTIONS
and a challenge

Lessons for US industry from EU;





POLAND

If we wish to Trade AFTER ASF POS, Regionalize

Be like Poland

BELGIUM

If we wish to Eliminate ASF once enters North America,

Be like Belgium

DENMARK

- If we want to
- 'Keep it out'
- Fences, truck washes and vision

Be like Denmark

GERMANY

- If we want a Warning;
- Of a declining Industry
- Be like Germany

ROMANIA

- If we want
- Loss of potential
- <100K sows, could be 1M sows
- Be like Romania

Highest PREVENTION TACTICS: build a fence

Denmark builds border fence to keep out German pigs

THREE GREAT QUESTIONS

and a challenge

And wash the trucks;
DANISH Border TRUCKWASH

"Biosecurity is the mentality of the people"

'Keep it out'

THREE GREAT QUESTIONS

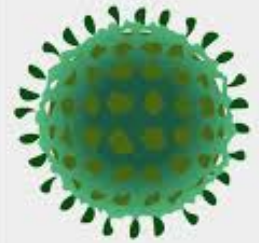
and a challenge

Group: Group IV ((+)ssRNA)

Order: Nidovirales

Family: Arteriviridae

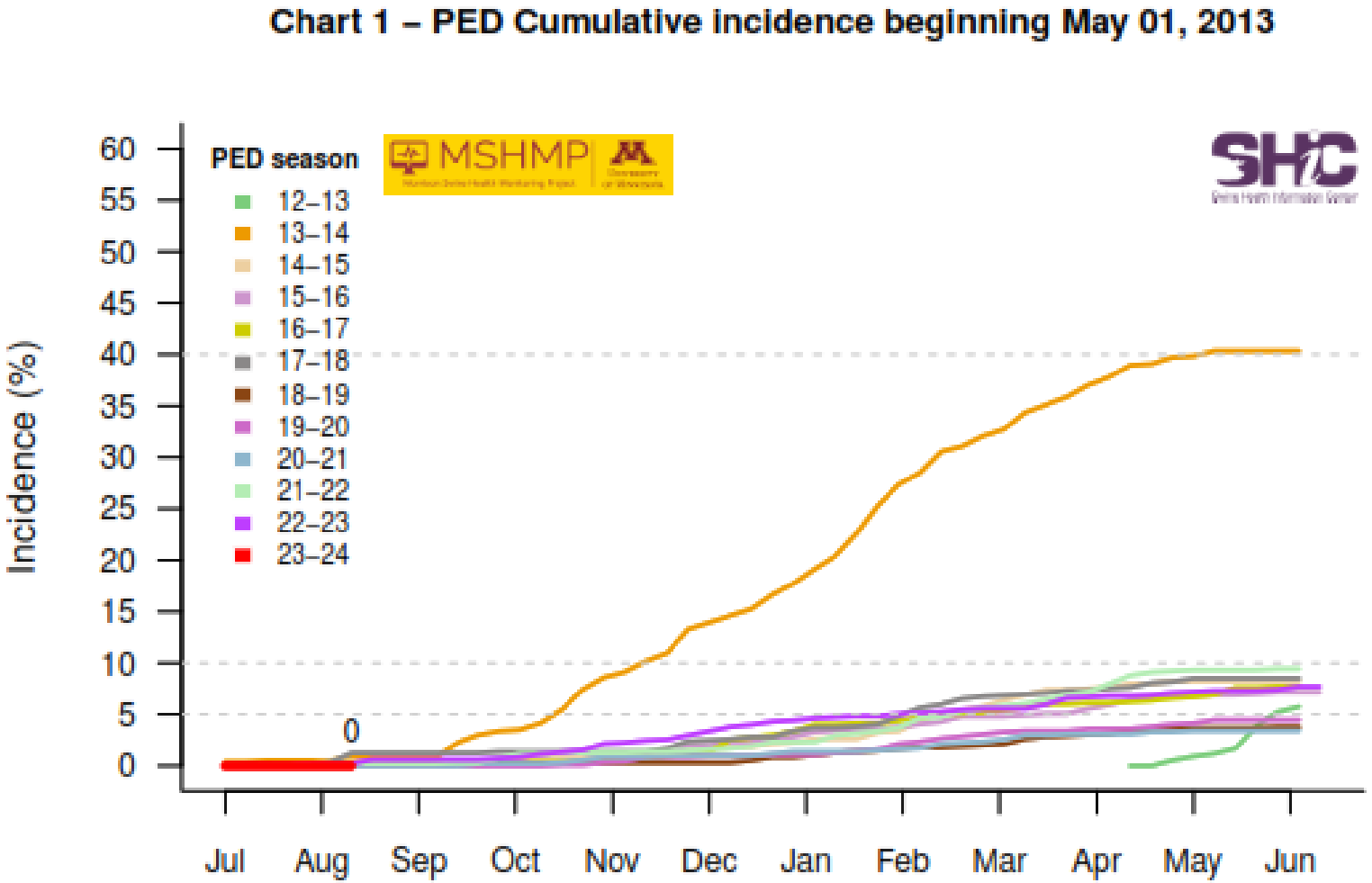
Species: Porcine Respiratory & Reproductive Syndrome virus



National Endemic Pathogen Elimination:

How and Why?

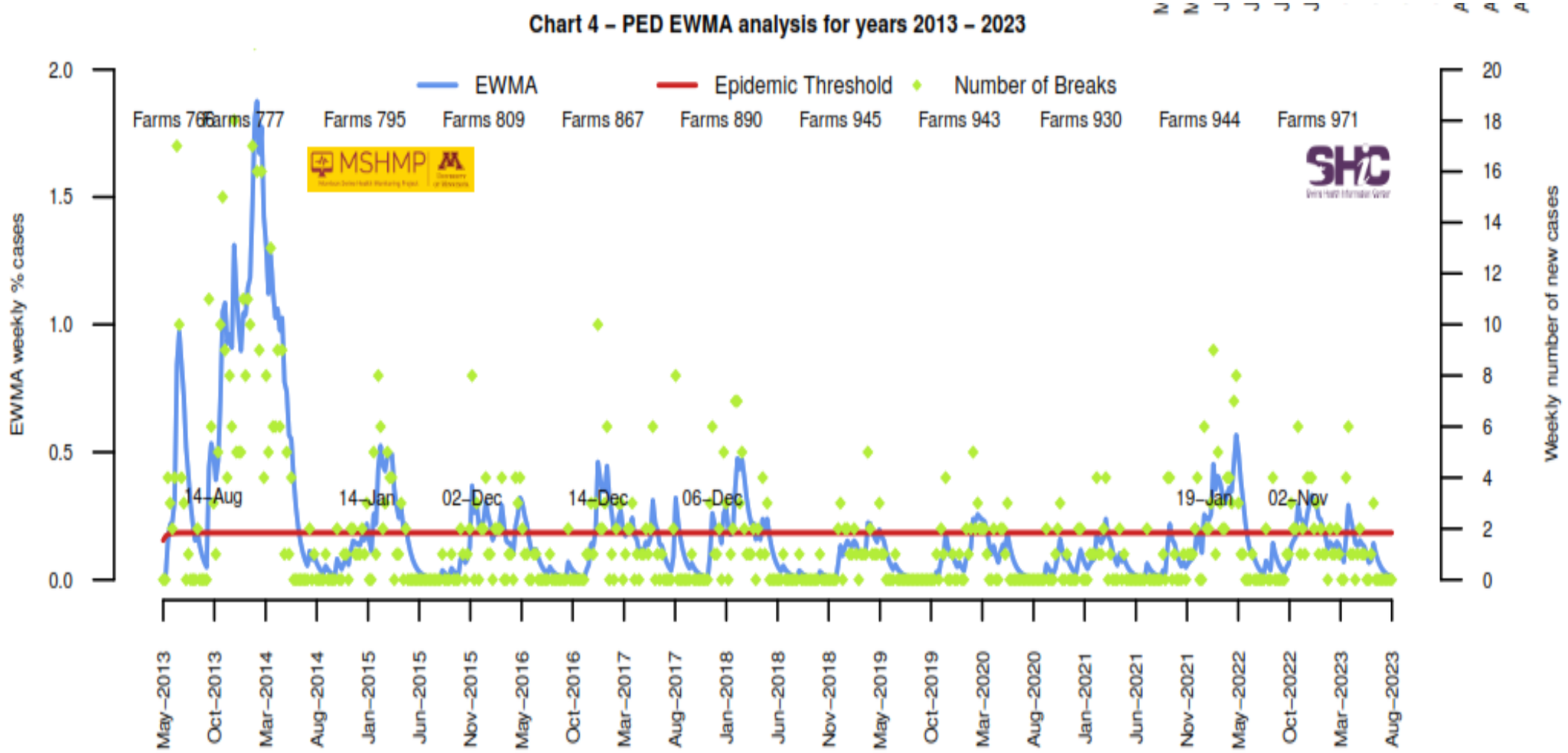
The low hanging fruit of PEDV Incidence (or Mycoplasma)



THREE GREAT QUESTIONS

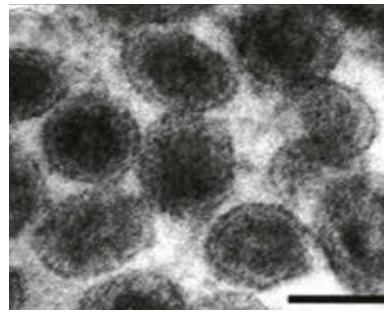
and a challenge

Is the fruit ready to be harvested?



Higher fruit:
Economic impact of US PRRS

- Holtkamp et al. 2012 – $**664 M**



- Our farm estimate:
  - Sows $200/sow (Pipestone internal data)
  - WTM: **$14.81/head** (SBIII data)

- 2023 Cost to Industry (144 and 174); **$1B**

THREE GREAT QUESTIONS
and a challenge

What are others doing about Endemic pathogens?

Hungary

ELIMINATE

Industry led

Denmark

ELIMINATE

Industry led

Mexico

REGIONAL

Efforts

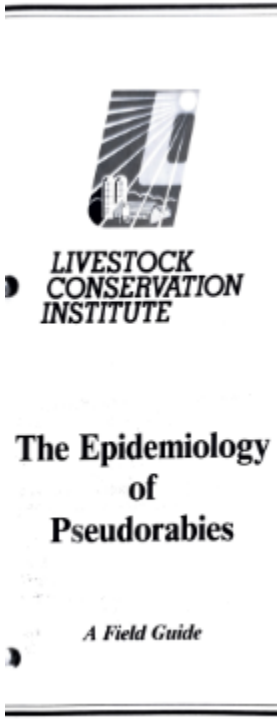
Producer led

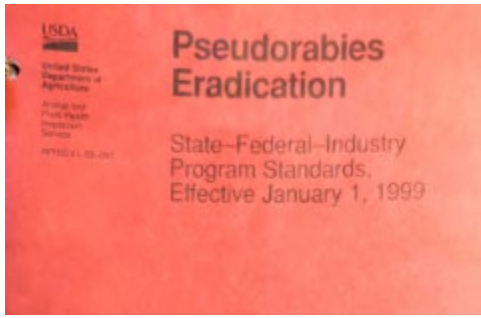
THREE GREAT QUESTIONS

and a challenge

History lessons in National Elimination: PRV

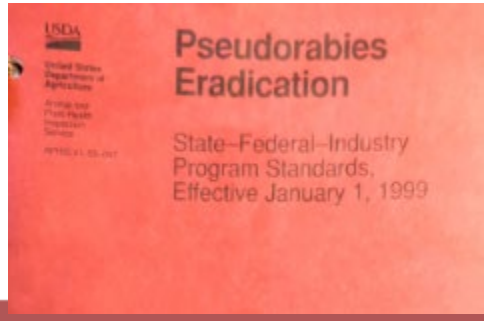
- First described in 1813
- Eradication timeline; Nearly 30-year effort from 1975 to 2004
- Program Stages and requirements
  - Stage I - *Preparation -*
  - Stage II - *Control*
  - Stage III - *Mandatory Herd Cleanup*
  - Stage IV - *Surveillance*
  - Stage V - *Free*





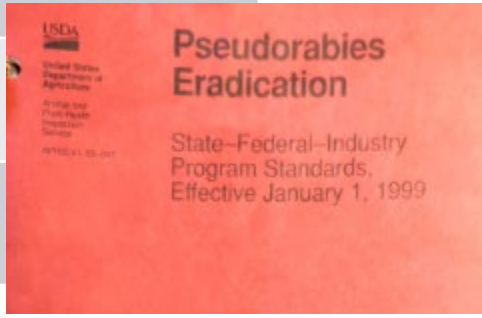
The Plan

- Stage I - *Preparation – Developing a game plan*
- Stage II - *Control – testing and clean-up (voluntary to mandatory)*
- Stage III - *Mandatory Herd Cleanup – when prevalence is __% or less*
- Stage IV - *Surveillance - sample collection at packing plants*
- Stage V - *Free – declaration of US national herd status*



Comparison of then and now

	Then	Now
Pathogen	Aujeszky's Disease	PEDV
Industry Structure	Purebred & farrow to finish	Integrators, multi site and show pig
Authority	LCI, Iowa Purebred Council, APHIS	SAHO, SHIP, APHIS
Timeline	1975 to 2004	2013 to _____
Incidence	8.78% (1987)	Less than 5% (MSHMP) in sow herds
Cost	$67.6 M	See 2013/2014
Cost to Eradicate	$132.5 M	Less than PRV



3 Great Questions for SHIP Delegates

Can the U.S. be the best swine industry in the world?

If yes, how would we do that?

Where do we start?

THREE GREAT QUESTIONS

and a challenge

What do we already know?

THREE GREAT QUESTIONS

and a challenge

We know

- Successful history of previous eliminations: FMDV, CSFV, PRV
- Pathway to preparation and sustainable platform
  - SHIP
- Authority to implement; Producers, National Organizations, State and Federal Officials
- Value proposition to producers
  - FAD introduction will cost $15B $69B over ten years?
  - Endemic cost $1B+ for PRRSV
- Published pathogen pathways, elimination and interventions
- Annual incidence rates; Very low for PEDV

THREE GREAT QUESTIONS

and a challenge

3 Great Questions for SHIP Delegates

…..the Challenge

Can the U.S. be the best swine industry in the world?

If yes

Where do we start?

CHALLENGE

THREE GREAT QUESTIONS

and a challenge

Lead

1. **Keep FAD/ASF out but prepare**
   - *educate yourself on value of SHIP as sustainable platform*
2. **Implement SHIP on your sites as platform for future industry progress**
   - Enroll
   - Participate in the hard decisions
   - Certify your farms and encourage all in the industry to do the same
   - Engage
3. **Be a student of the goals**
   - Biosecurity
   - Traceability
   - Surveillance

THREE GREAT QUESTIONS

and a challenge

Lead well, do good

our industry needs it