

Secure Food Supply Business Continuity Plans: Federal, State, Industry, and Academic Partnerships

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FAD Response Planning is Moving in a New Direction



Secure Food Supply Plans During an FAD Outbreak

- Overall goals include:
 - Detect, control, and contain FAD as quickly as possible;
 - Avoid interruptions in animal/animal product movement to commercial processing from farms with no evidence of infection during a foreign animal disease outbreak;
 - Provide a continuous supply of safe and wholesome food to consumers; and
 - **Maintain business continuity** for producers, transporters, and food processors through response planning.
- www.aphis.usda.gov/animal_health/emergency_management/materials_ref.shtml
- www.cfsph.iastate.edu/Secure-Food-Supply/index.php



Secure Food Supply Plans

Movement from Premises with No Evidence of Infection

- Secure Milk Supply
 - Foot and Mouth Disease (FMD)
 - Movement of milk



- Secure Pork Supply
 - FMD, Classical Swine Fever, African Swine Fever, and Swine Vesicular Disease
 - Movement of animals



- Secure Egg Supply
 - High Path Avian Influenza (HPAI)
 - Eggs and egg products



- Secure Turkey Supply
 - HPAI
 - Movement of birds



- Secure Broiler Supply
 - HPAI
 - Movement of birds, hatching chicks and eggs



Common Components of Secure Food Supply Plans

- Voluntary pre-outbreak preparedness components
- Biosecurity, surveillance, epidemiology questionnaires, movement permits
- Risk assessments (completed and in process)
- Plans must be based on current capabilities and will evolve with science, risk assessments and new capabilities
- Guidelines only: Final decisions made by responsible officials during outbreak
- Outreach and training pre and post outbreak

SECURE EGG SUPPLY

*Collaboration between
Industry, Government
and Academia*



Expanding the SES Plan Nationally

- Biosecurity audits conducted by nationally qualified groups that already audit egg producers
- Modify the SES Data Portal for use by SAHOs and AVICs from other states
- Agreements between states to implement the plan for interstate commerce

Secure Turkey Supply Plan

- Iowa State University
 - Center for Food Security and Public Health
- University of Minnesota
 - Center for Animal Health and Food Safety
- National Turkey Federation
- Association of Veterinarians in Turkey Production
- USDA APHIS
 - VS, CEAH, NCAHEMS
 - Eastern and western regional epidemiologists
 - AVICs
- SAHOs



Secure Broiler Supply Plan



Broiler Sector Working Group

- University of Minnesota
 - Center for Animal Health and Food Safety (CAHFS)
- Association of Veterinarians in Broiler Production (AVBP)
- The USDA APHIS Veterinary Services
- State Animal Health Officials



Secure Food Supply Plans

- Secure Milk Supply
 - Foot and Mouth Disease (FMD)
 - Movement of milk



- Secure Pork Supply
 - Foot and Mouth Disease (FMD), Classical Swine Fever, African Swine Fever, and Swine Vesicular Disease
 - Movement of animals



The United States has had Nine Outbreaks of FMD

- 1870, 1880 and 1884: Due to importation of infected animals. Since the development of a Federal system of inspection and quarantine of imported livestock, no outbreak has been attributed to admission of live animals.
- 1902, 1908, 1914, 1924 (two separate outbreaks) and 1929
- All outbreaks were controlled by stop movement and stamping out

http://www.wrlfmd.org/fmd_genotyping/north_america.html



North American Animal Agriculture Industry is Unique

The size, structure, efficiency, and extensive movement inherent in the North American livestock industries will present unprecedented challenges in the event of a Foot and Mouth Disease (FMD) outbreak

Very Large Herd Size

- >5,000 cow dairies
- >70,000 calf ranches
- >50,000 cattle feedlots
- >20,000 sows

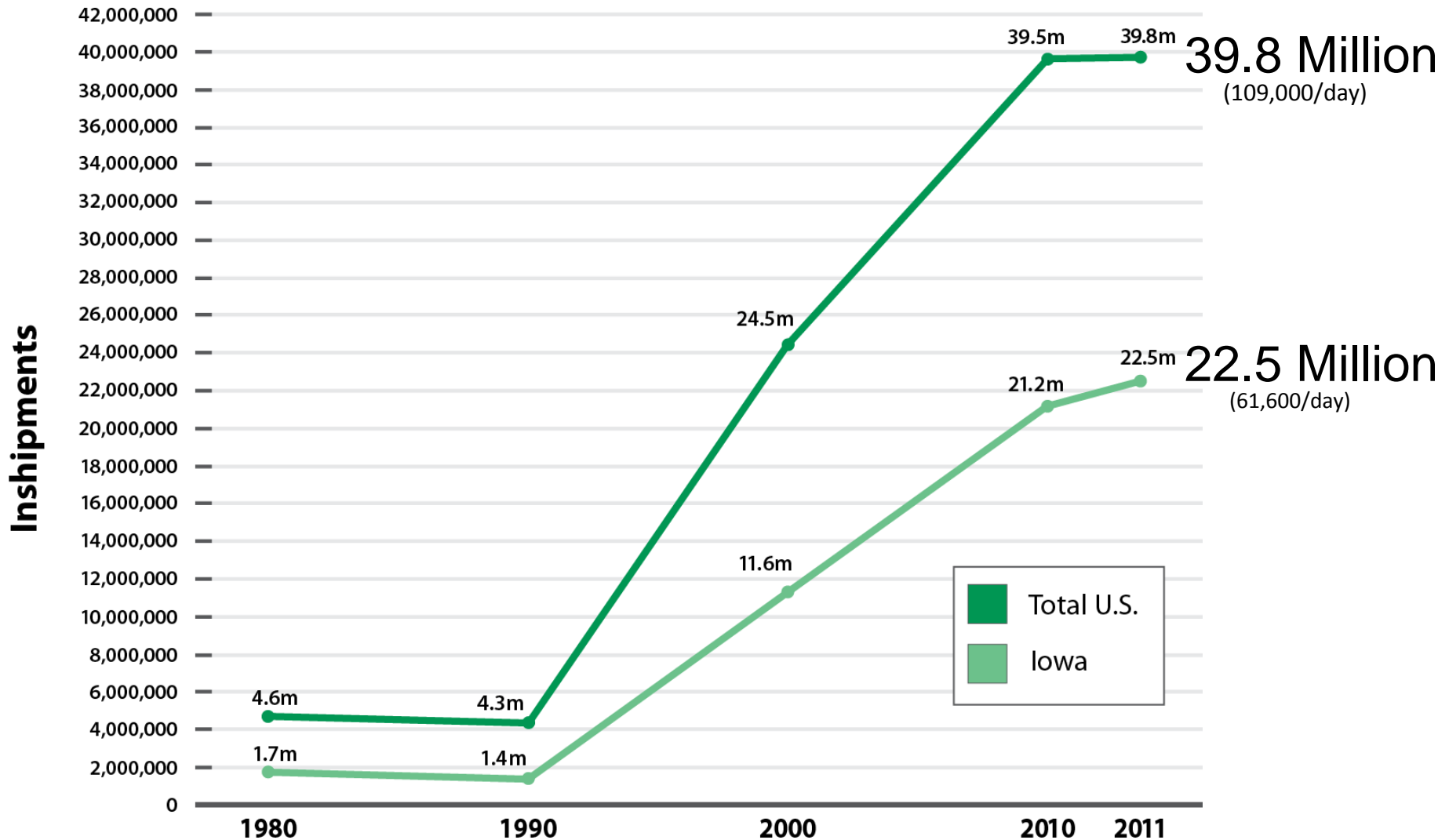


Extensive Mobility of Animals, Products, Feed

- ~1,000,000 swine in transit daily
- ~50,000 to 83,000 feedlot placements per day
- ~94,000 commercial cattle slaughter per day
- Dairy calves and replacement heifers?
- Auction markets, fairs, exhibitions?
- Sheep, goats, others?

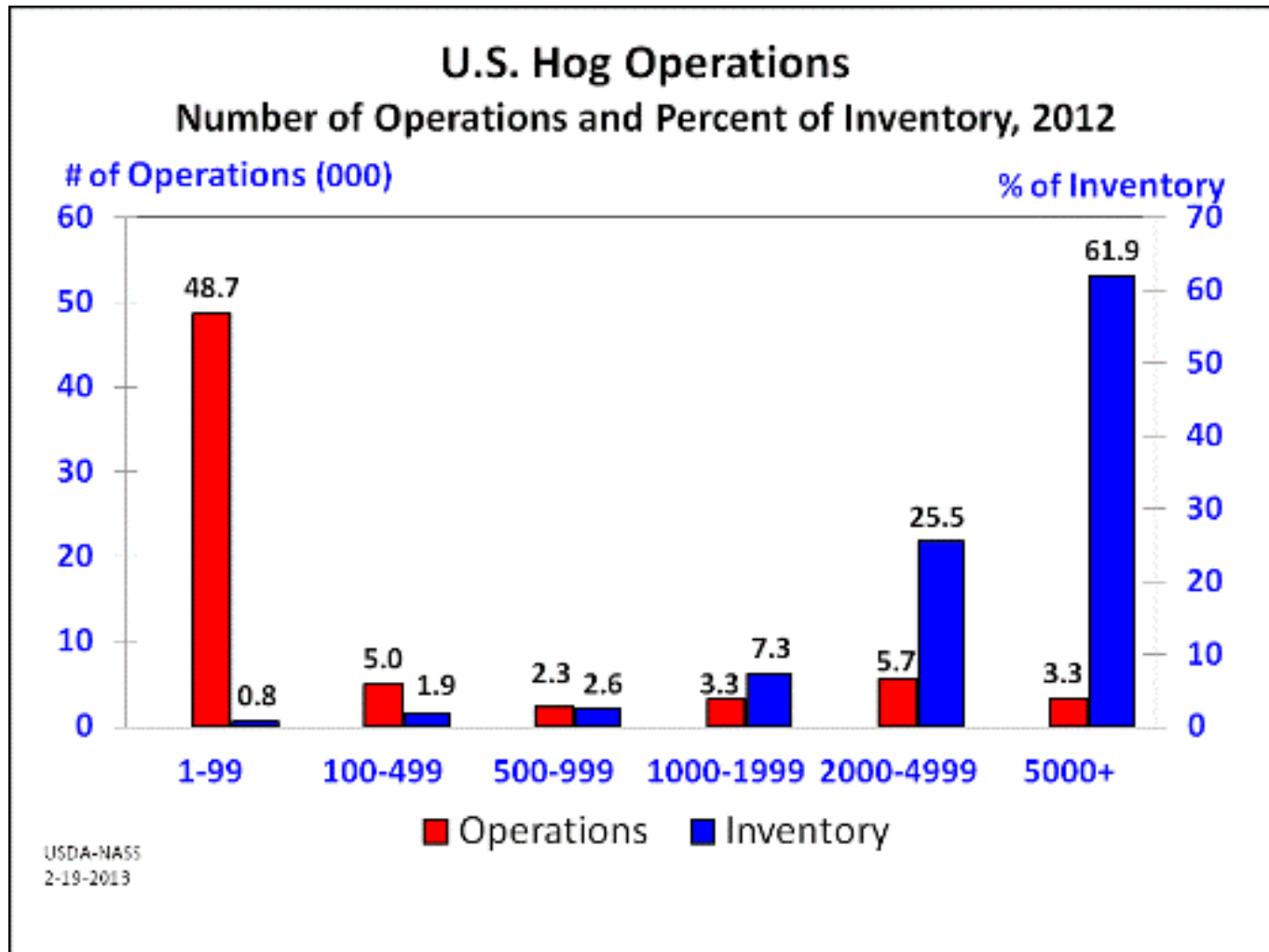


Inshipments of Hogs to All U.S. States and to Iowa for Selected Years

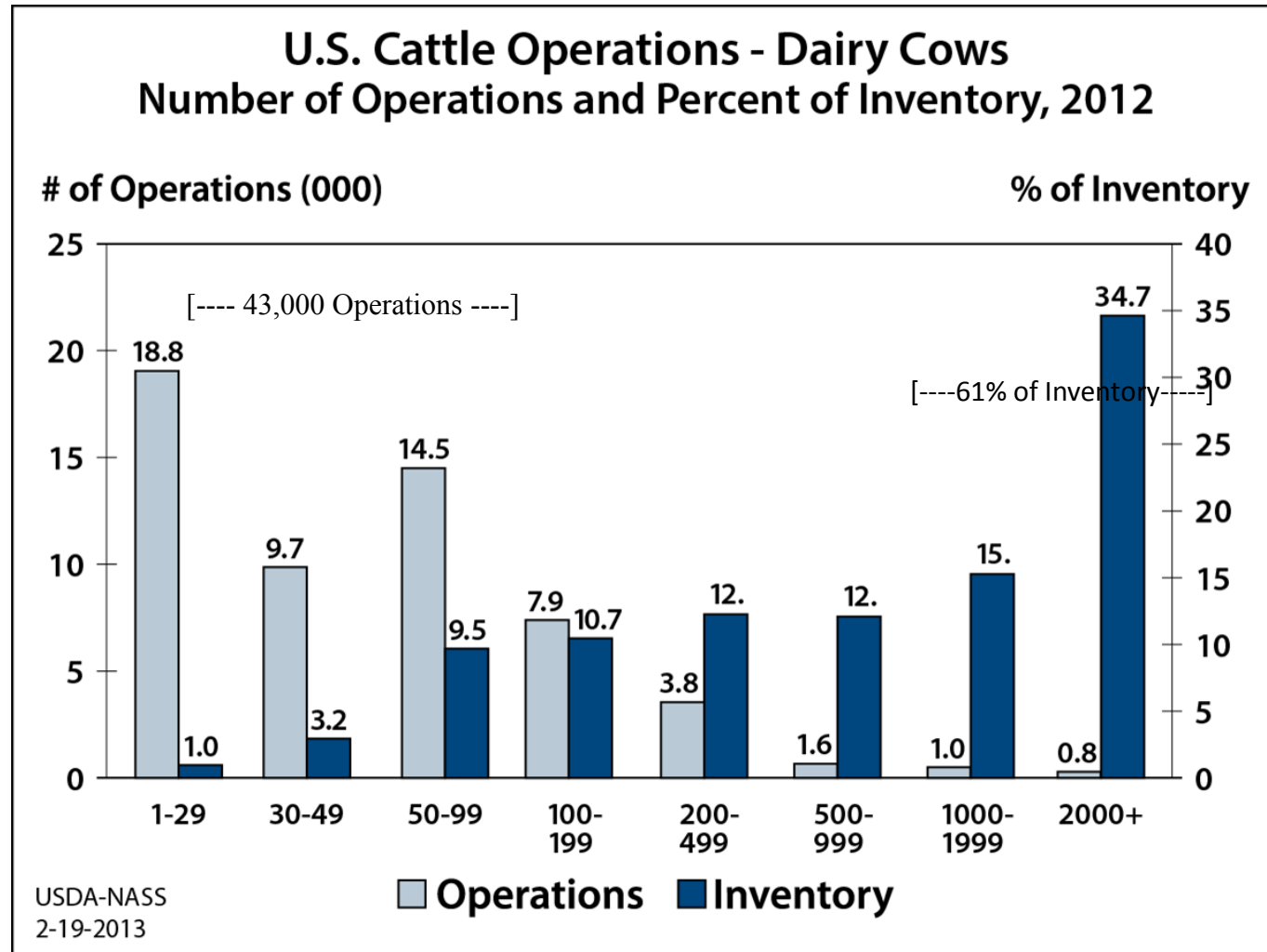


From Haley (2004) and NASS (2012b).

SPS Plan Must Consider All Hog Operations



SMS Plan Must Consider All Dairy Producers



Role of Wildlife in FMD Outbreak?

~ 5 to 6 million
feral swine

~30 million deer

Distribution of Feral Swine Over Time

Feral swine are quickly spreading across the United States due to natural population growth, illegal movement by sports hunters, and escapes from domestic swine operations. Experts estimate their numbers at over 5 million animals nationwide.

2010

2004

1982

■ Feral Swine Identified
■ No Feral Swine

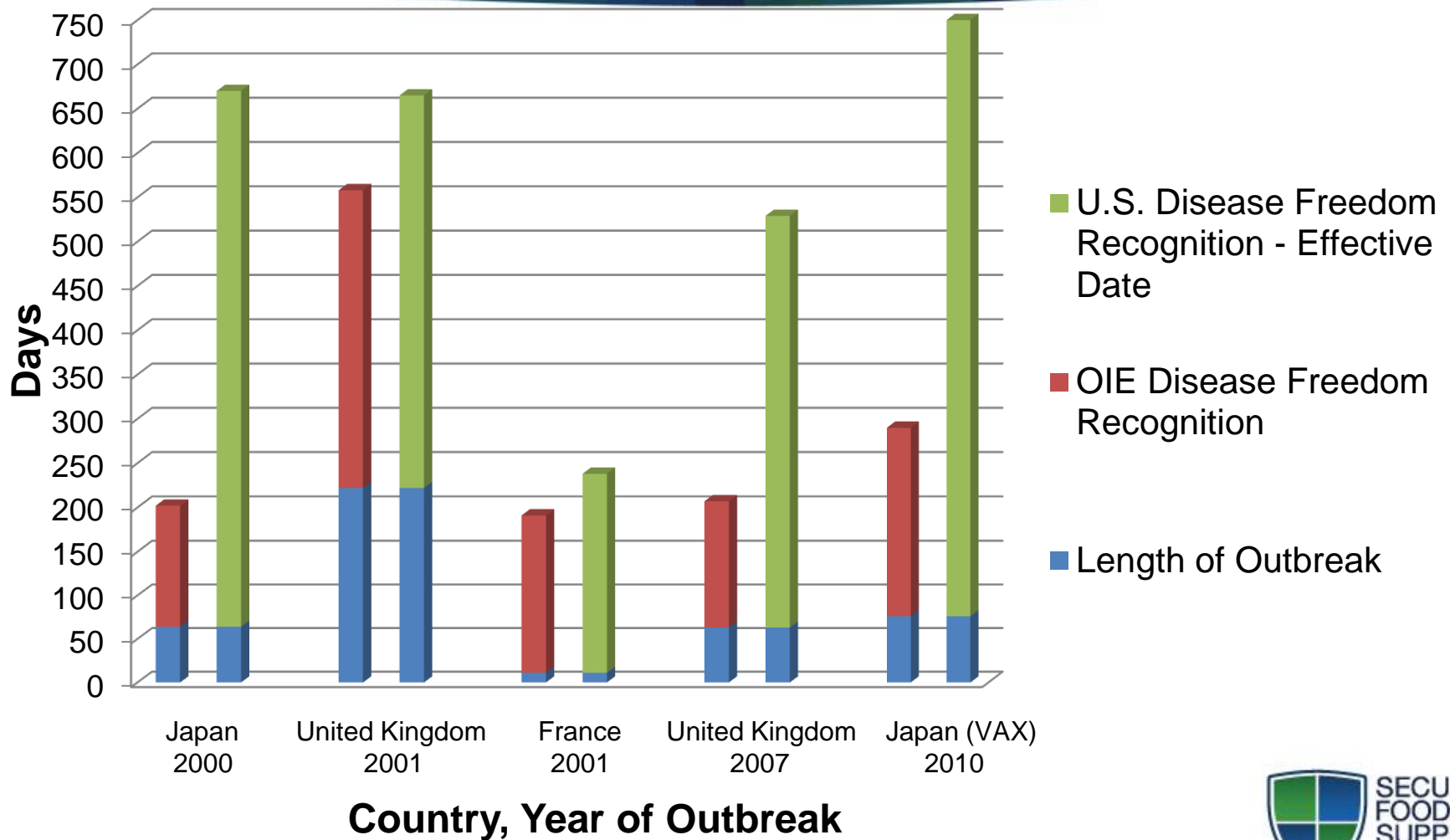
USDA
United States Department of Agriculture
Animal and Plant Health Inspection Service
Program Aid No. 2086

**Feral Swine:
Damage and
Disease Threats**

Additional copies of this brochure are available at no charge from:
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USDA/APHIS
4700 River Road, Unit 1
Riverdale, MD 20737-1229
Order online via: www.aphis.usda.gov/publications/

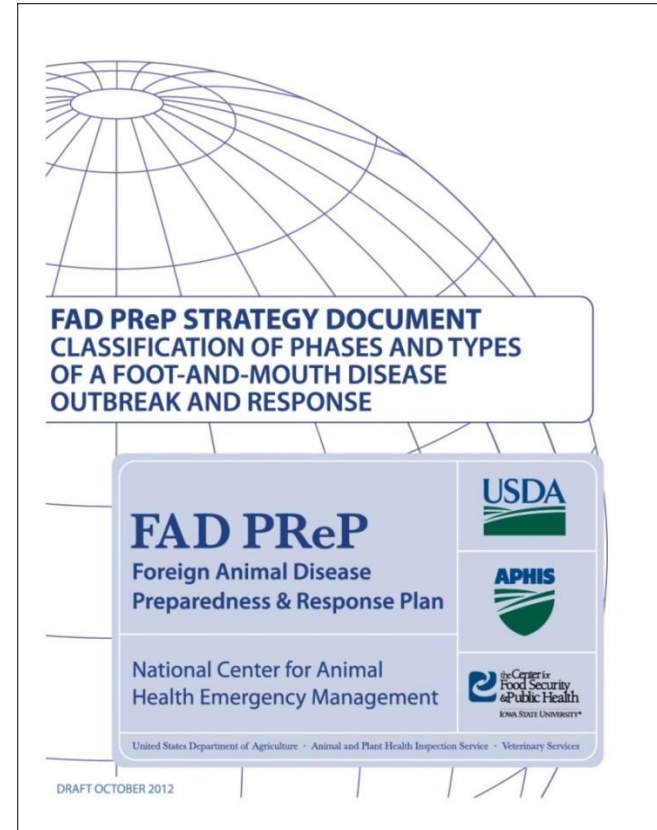
Photo Credits: All images in this brochure were taken by APHIS employees as part of the APHIS image collection.
USDA is an equal opportunity provider and employer.
This publication supersedes Agricultural Information Bulletin No. 799, "FeralWildPigs: Potential Problems for Farmers and Hunters," which was published in October 2005.
Issued August 2011

Time to Regain FMD Freedom



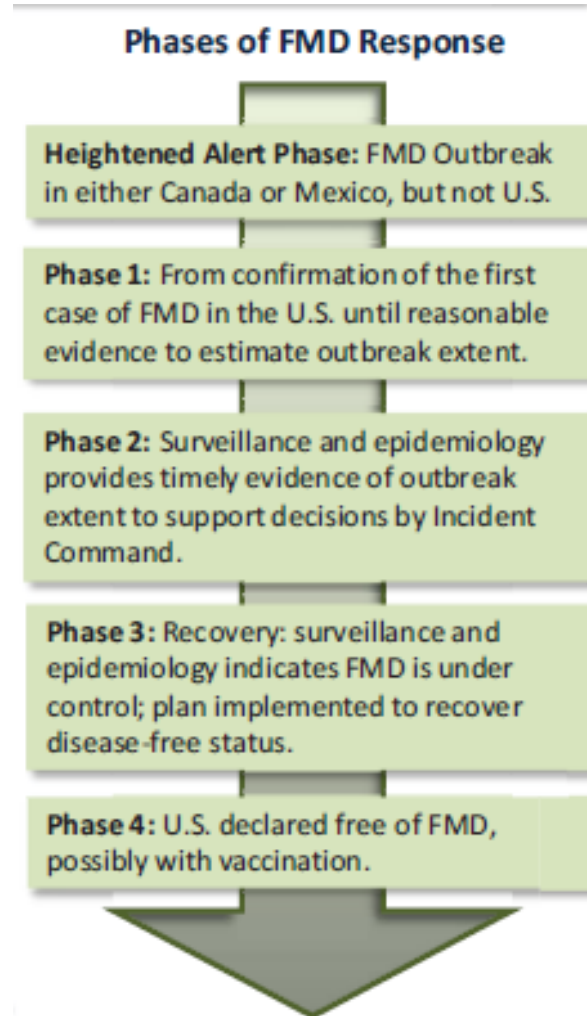
Phases and Types of FMD Response

Strategies for the response to, and management of, an FMD outbreak will change as the outbreak progresses and will depend upon the magnitude, location and other characteristics of the outbreak.

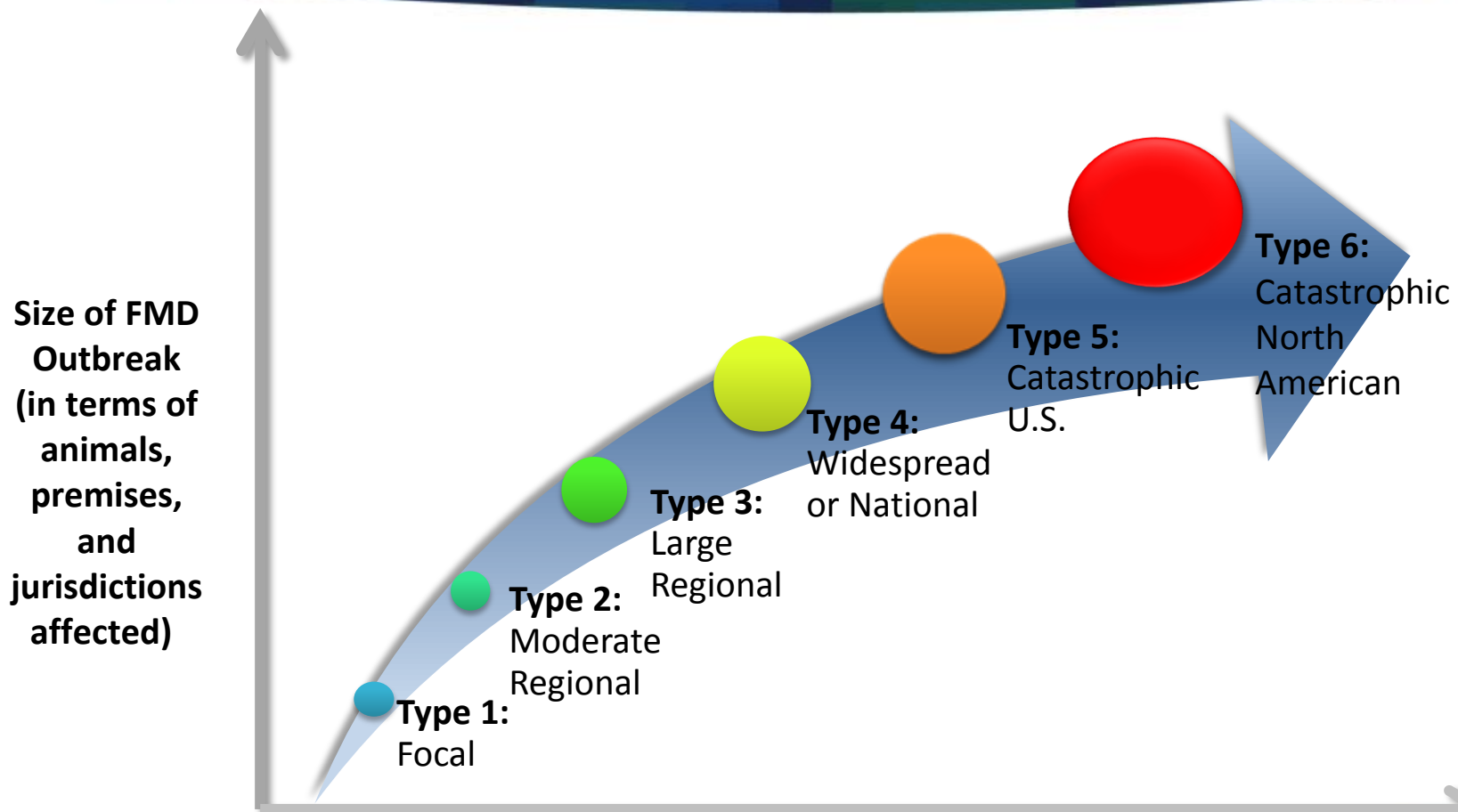


Potential Phases of an FMD Response

- FMD response and management strategies
 - Change as the outbreak progresses
 - “Phases”



Potential Types of an FMD Outbreak



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

Large FMD Outbreak

- In a Type 3 outbreak or larger, stamping out may be discontinued.
- Animals will be allowed to recover from FMD and plans are needed to address management of infected herds.

Type 5 – Catastrophic FMD Outbreak

- Widespread areas of infection are detected involving a large portion of the United States
- Too many animals are affected to implement stamping out
- Sufficient vaccine and resources are not available to effectively use vaccine to control the outbreak

Type 5 – Catastrophic FMD Outbreak

- It becomes apparent that FMD is widespread, and will not be eradicated within a year
- Transition from an emergency eradication response to a long term control program eventually leading to eradication, perhaps including vaccinate-to-live

The North American FMD Vaccine Bank

- Contains vaccine antigen concentrate of selected topotypes to produce vaccines for emergency use
- Supplies are based on the old model of selective and restricted use of vaccine
- Emergency vaccine stocks are far below what would be required to address a livestock dense state or multi-state outbreak

Problems to Address

- Rapid availability of adequate supplies of FMD vaccine will be essential to mitigate the disastrous consequences of a large FMD outbreak in the U.S.

Secure Pork Supply (SPS) Plan



**SECURE FOOD
SUPPLY PLANS**

Collaboration Between Industry,
State Governments, Academia, USDA-APHIS

Secure Pork Supply Partners

- SPS Planning Committee
 - Federal and State officials
 - Representatives of all phases of the swine industry
 - NPB, NPPC, AASV
 - Academia
 - Iowa State University
 - University of Minnesota

Secure Pork Supply Planning Committee

- First meeting October 11-12, 2011
- Working Groups formed:
 - Biosecurity (pre and post outbreak)
 - Surveillance (pre and post outbreak)
 - Compartmentalization/Monitored Premises
 - Data Collection, Management, and Sharing
 - Risk Assessments
 - Communications
 - Plan for response to an FAD
Outbreak Tomorrow

Draft Secure Pork Supply Plan July 2013

Sent out widely for input:

- Federal and State Animal Health Officials
- Producers, Packers, AASV, NPB, NPPC, AMI, NAMA

Requested input by
August 31, 2013



Controlled Movement of Swine in an FMD Outbreak

- At the beginning of an outbreak
 - No new movements initiated from the FMD control area
 - 1 million pigs on the road each day
 - Some will have come from the control area
 - ~400,000 to 500,000 hogs and sows slaughtered daily
- Restarting movement
 - Depends on the type of outbreak

Controlled Swine Movement To and Through a Packing Facility

- Swine may be infected with FMD virus before showing any clinical signs or testing positive by PCR
- It is not possible to prove freedom from FMD infection in a herd, or in an individual animal. It is only possible to establish that there is lack of evidence of infection
- Therefore, all pork from a processing facility that has received swine from the FMD Control Area will be considered to potentially contain the FMD virus

Controlled Swine Movement To and Through a Packing Facility

- **FMD is not a public health or food safety problem**
- Animals which pass ante-mortem and post-mortem inspection by USDA FSIS are safe for human consumption, even if they may be in the pre-clinical stage of FMD infection
- Regulations regarding feeding garbage to swine must be strictly enforced.

Controlled Swine Movement To and Through a Packing Facility

- At the beginning of an FMD outbreak (Phase 1)
 - Packing plants should continue to process all swine in the plant and in transit to the plant which cannot be turned back or euthanized while in transit
 - State Animal Health Officials should not stop animals from crossing state lines
- During a large FMD outbreak (Phase 2, Type 3 or greater)
 - Market ready hogs and sows, from herds in the Control Area with no evidence of infection should be sent to slaughter as quickly as possible

Controlled Swine Movement To and Through a Packing Facility

- Processing of swine should continue, even if it is known that FMD infected animals have been in the plant
 - Federal and State Officials (Incident Command Post) would need to agree to this
 - Packing facility owners/managers would also need to agree to this

Controlled Swine Movement To and Through a Packing Facility

- Modern packing facilities process thousands of swine daily. At any point in time, there may be thousands of live animals in lairage awaiting slaughter.
- If any animals are incubating the virus, and the processing of swine is stopped, the virus will rapidly multiply in the swine in lairage.
- The thousands of animals that are in transit to slaughter facilities will not be able to be unloaded if the processing of swine at the plant is not continued.

Controlled Swine Movement To and Through a Packing Facility

- Processing of all healthy animals in the slaughter facility and in transit to the facility is the fastest way to dispose of those animals and presents the lowest risk of spreading FMD infection
- It also reduces the need for carcass disposal and preserves high quality protein for human consumption

Controlled Movement of Swine in an FMD Outbreak

- Restarting movement
 - Level 2 biosecurity
 - Producers, haulers, packers
 - Surveillance, Traceability, Validated Premises ID
 - No evidence of infection on day of movement
 - Movement permits
 - Electronic CVIs, Data management

Secure Milk Supply (SMS) Plan

SMS Partners

National Partners

Industry

- Working groups, topic experts

Academia

- Iowa State University
- University of California, Davis
- University of Minnesota

USDA-APHIS-VS

- Centers for Epidemiology and Animal Health (CEAH)
- National Center for Animal Health Emergency Management (NCAHEM)

Regional Partners

- California
- Colorado
- New England States Animal Agricultural Security Alliance (NESAAASA)
 - CT, MA, ME, NH, RI, VT
- Mid-Atlantic States
 - VA, MD, TN, NC, SC, DE, WV
- NY, NJ, PA
- Pacific Northwest
 - WA, OR, ID
- Wisconsin



Secure Milk Supply

- **Initial Goal**

- To maintain milk movement from dairy farms with no evidence of infection in an FMD outbreak and to provide a continuous supply of wholesome milk and milk products for consumers

- Provide clear recommendations for emergency response leaders to facilitate safe movement of dairy products to processing

SMS Plan Components

- Biosecurity performance standards
 - Dairy premises, milk haulers, processing plants
- Milk movement decision support tools
 - Guidance documents for those in decision making roles
 - Herd Health Monitoring
- Pre-event risk assessment
 - Identify mitigation steps to minimize FMD virus spread



FMD Virus in Dairy Products

- Cows may shed FMD virus in the milk before they show clinical signs
- Standard milk pasteurization (HTST) and some cheese processing times and temperatures used in the US are not sufficient to completely eliminate FMDV from dairy products
- **FMD is not a public health or food safety problem**

World Organization for Animal Health (OIE)

- Terrestrial Animal Health Code
 - Standards for treatment of milk and milk products for human consumption
 - Article 8.5.38
 - Standards for treatment of milk and milk products for animal consumption
 - Article 8.5.39

Draft Recommendation

- At the beginning of an FMD outbreak, it is **not necessary to recall** from commerce for human consumption pasteurized milk or milk products that originated in the Control Area.
- Milk products for animal consumption that have been treated to OIE standards do not need to be recalled.
- Milk products for animal consumption which may have originated from an infected herd and which were not treated to OIE standards should be recalled and destroyed.

Draft Recommendation

- Milk originating from farms with no evidence of infection within an FMD Control Area which has been treated to OIE standards for either human or animal consumption **may enter commerce** for either human or animal consumption.

Draft Recommendation

- Milk processors should be asked to provide evidence that their processing procedures meet the OIE requirements for the inactivation of the FMD virus in milk and milk products for human and/or for animal consumption.
- The procedures should be subject to audit by appropriate authorities

Draft Recommendation

Acceptable uses for milk from FMD infected, suspect, or contact premises should be established and states or regions should have plans in place for diverting milk to processors capable of processing for acceptable uses.

Comments and Questions:

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