



Iowa Farm Bureau's Margin Management Webinar Series presents:

African Swine Fever: A Global Threat

Thursday, July 11, 2019 1:00 pm

Speaker:

Dr. Andrew Hennenfent

Emergency Management Coordinator for Animal Health,
Iowa Department of Agriculture and Land Stewardship

African Swine Fever: A Global Threat

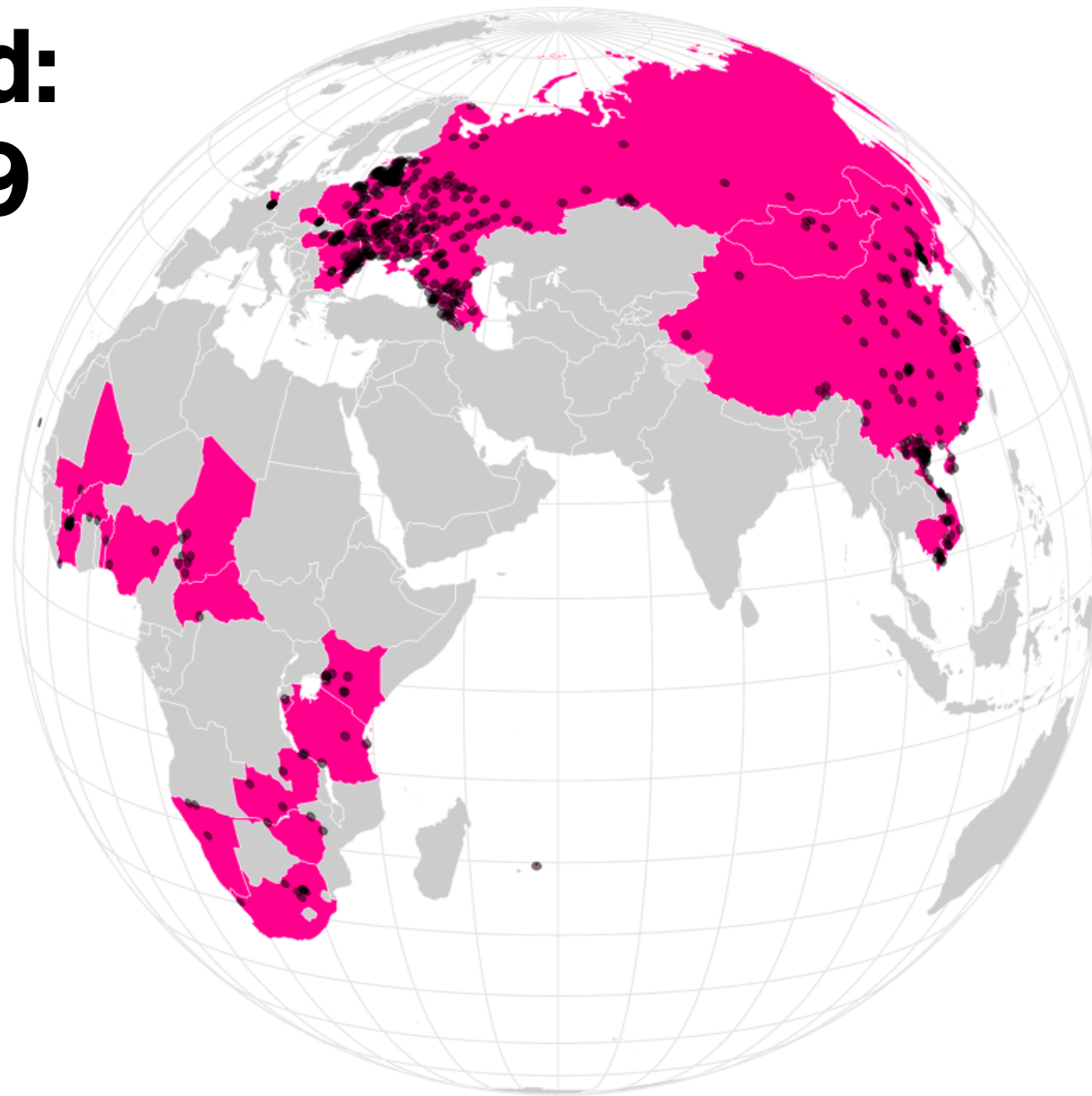
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**AGRICULTURE &
LAND STEWARDSHIP**

Andrew Hennenfent, DVM, MPH

Emergency Management Coordinator for Animal Health



Global Spread: 2005 to 2019



Source: OIE, as of May 23 2019

Source: <https://www.bloomberg.com/graphics/2019-eliminating-african-swine-fever/>

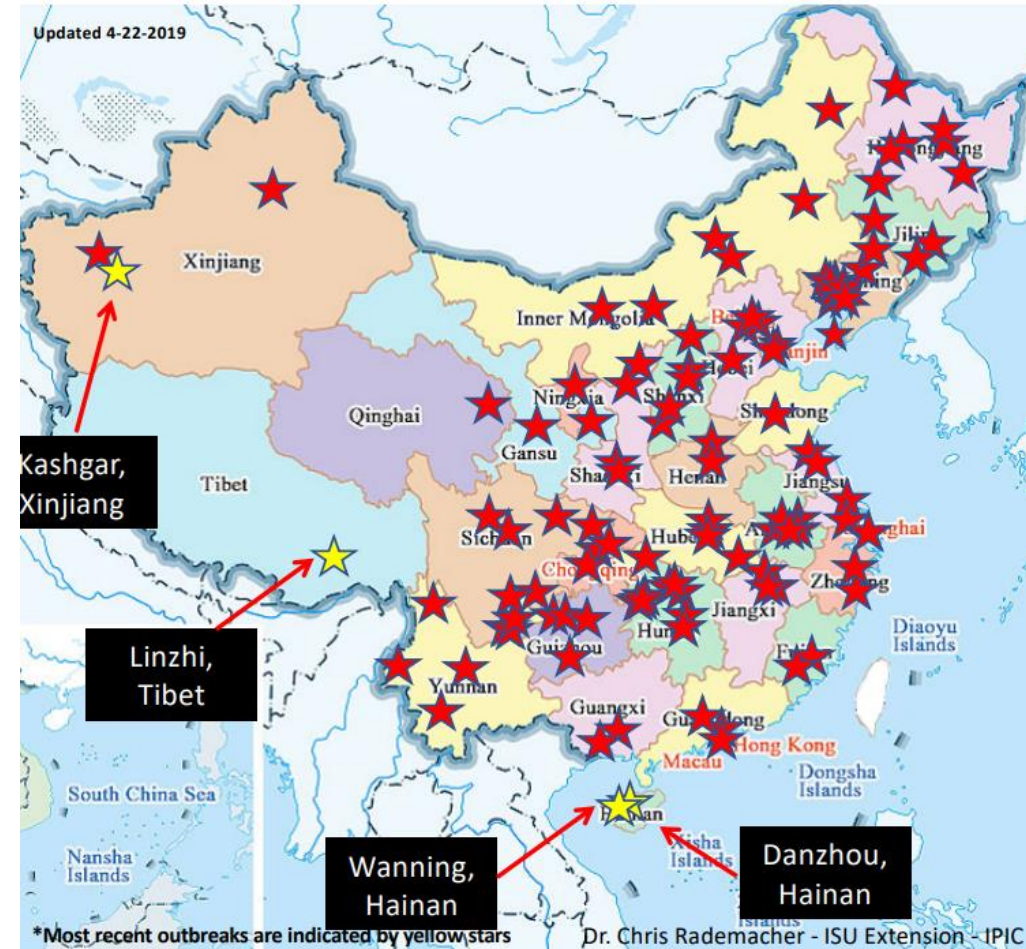


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Confirmed ASF Detections in China

Also in:

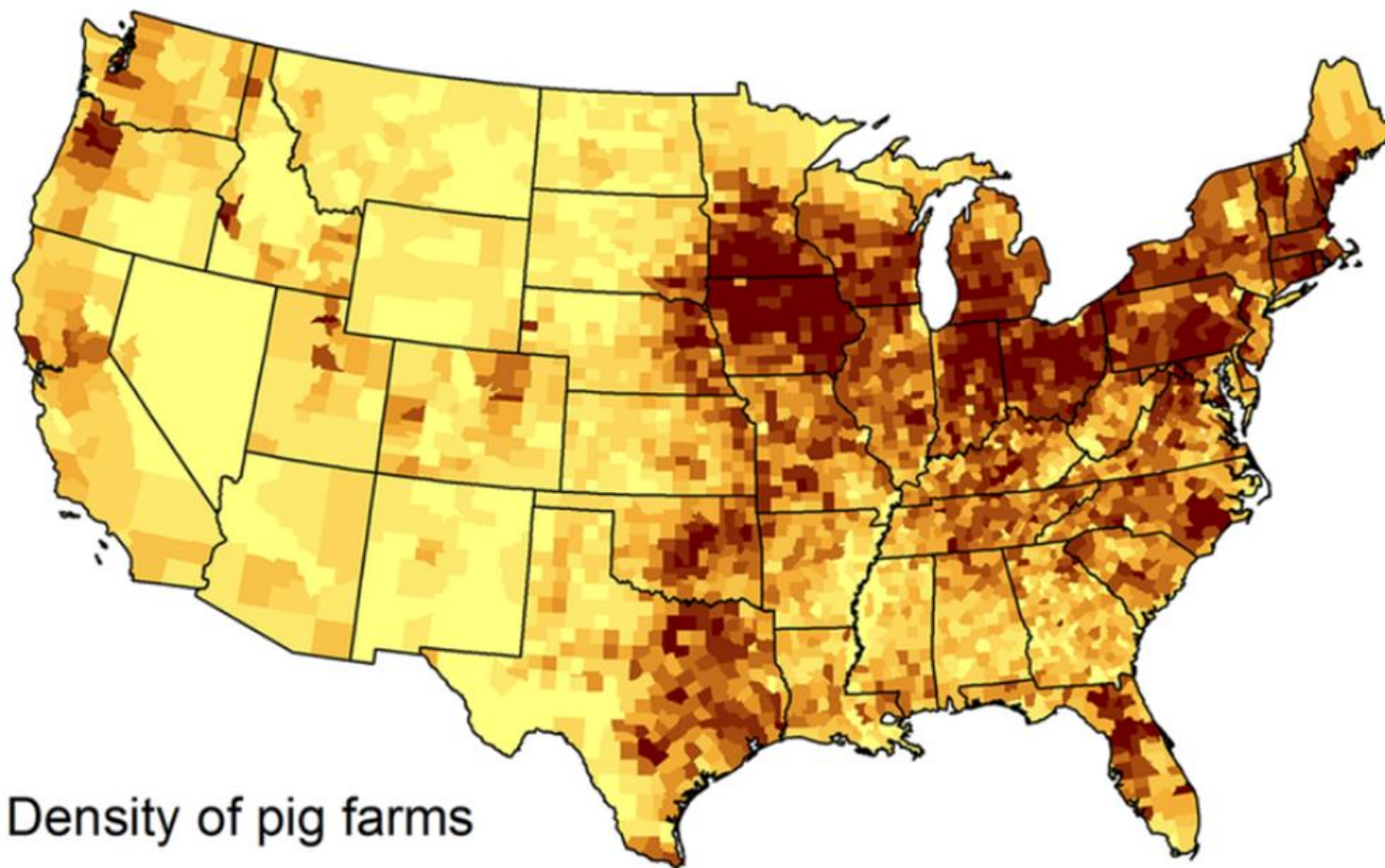
- Armenia
- Azerbaijan
- Belarus
- Belgium
- Cambodia
- China
- Czech Republic
- Estonia
- Georgia
- Hungary
- Latvia
- Lithuania
- Moldova
- North Korea
- Poland
- Romania
- Russia
- Ukraine
- Vietnam



Source: <https://www.ipic.iastate.edu/AfricanSwineFever.html>



Swine in the U.S.



Density of pig farms

Source: [PloS one, 10\(11\), e0140338](#)



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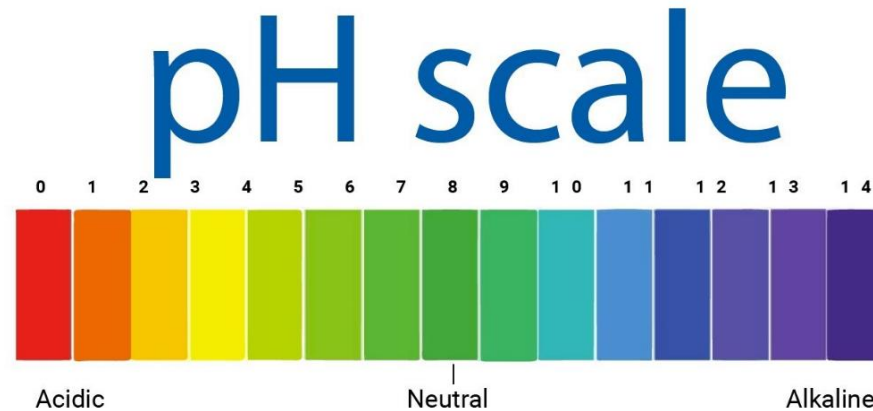
Background

- First documented in 1921
 - *Spread to Europe in 1957*
- Caused by *Asfivirus*
- Large enveloped DNA virus
 - *Robust survival*
- Natural hosts: warthogs & soft ticks



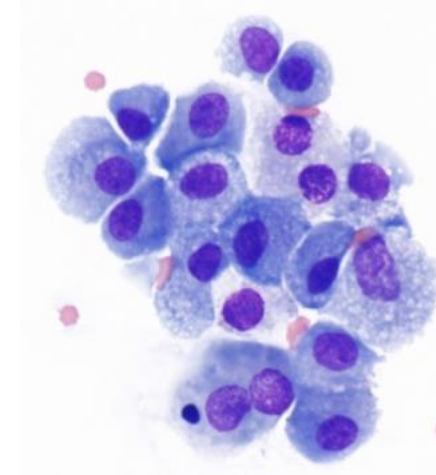
Virus Survival

- Survives in a pH range 4-11
- Can survive in salt-cured hams for months
- Unprocessed meat needs to be heated for 30 minutes at 158°F
- 84 days at 62.6°F and 112 days at 39.2°F



Background

- Found in ALL tissues & body fluids
 - *Infects monocytes & macrophages*
- Low virulence & High virulence strains
- Pig-to-pig transmission

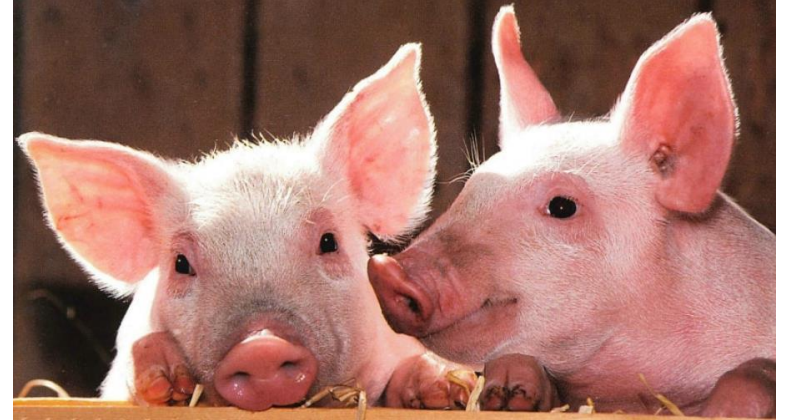


Virus to Snout

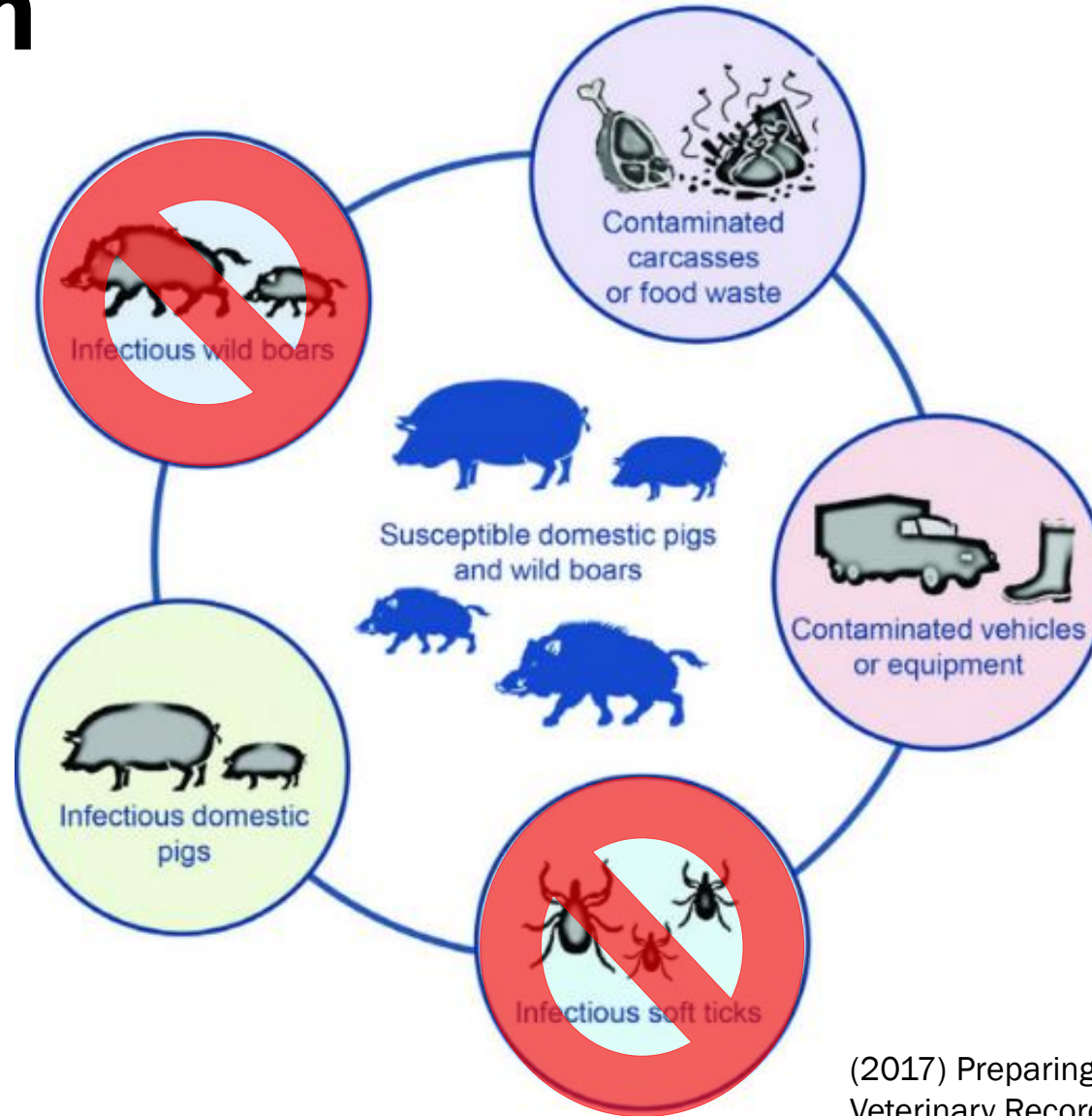


Transmission

- Direct contact
- Oral
- Fomites



Transmission



(2017) Preparing for the worst: African swine fever in China
Veterinary Record 181, 115-116.





Highly infectious but not highly contagious



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Clinical Signs

- High fever
- Decreased appetite
- Weakness
- Red, blotchy skin or skin lesions
- Diarrhea
- Vomiting
- Coughing
- Difficulty breathing



Differential Diagnosis

- Classical swine fever (hog cholera)
- Acute PRRS
- Porcine dermatitis & nephropathy syndrome
- Erysipelas
- Salmonellosis
- Eperythrozoonosis
- Actinobacillosis
- Glasser's disease
- Aujeszky's disease (pseudorabies)
- Thrombocytopenic purpura
- Warfarin poisoning
- Heavy metal toxicity



Prevention & Treatment

- NO vaccine
- NO treatment
- **BIOSECURITY**



Things to know:

- 1) This does not impact human health
- 2) Pork consumption is still safe
- 3) ASF can be prevented through **biosecurity**



**It won't make people sick
so why do we care?**



Pig Stats

of Pigs in China: \approx 500 million



Lost due to ASF: \approx 125 million

of Pigs in U.S.: \approx 75 million



of Pigs in Iowa: \approx 20 million



Economic Impact

Pork production sales per year in the state:



\$36.7 billion

Source: [Iowa Pork Facts](#)



Economic Impact



**PIGS RAISED IN
IOWA CONSUME
24.5% OF ALL
CORN ACRES AND
25% OF ALL
SOYBEAN ACRES.**



If ASF would hit, U.S. would lose

\$16.5 billion

in the first year

2.2 million metric tons of pork & pork related
products exported annually

Source: [ISU](#)



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International Trade



World
Organisation
for Animal
Health

Global
Market



Time for a short recording break;
we will continue in less than 30 seconds!

African Swine Fever: A Global Threat



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What can you do to protect Iowa & your pigs?



What you can do?

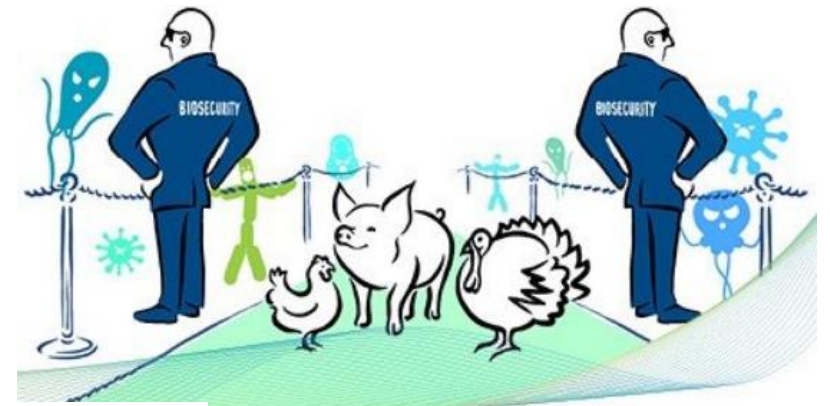
- Update Premise I.D. contact information
 - *including email address*
- Monitor & report any suspected illnesses
- Use proper **biosecurity** daily



BIOSECURITY

“Bio-” = life

“-security” = protection



**Everyone uses
biosecurity every day**



GERMS

are all around you.



The illustration shows a large hand in the center, with green and purple germ-like shapes (some with spikes, some with flagella) covering it. Surrounding the hand are various everyday objects: a closet with clothes, a toilet, an open book, a pencil, a video game controller, a bookshelf, a smartphone, a pair of headphones, a door handle, a laptop, a globe, and a desk with a chair. All these objects are also covered with the same green and purple germ-like shapes.

Stay healthy.
Wash your hands.

CS294906-F
PN300506

www.cdc.gov/handwashing



Your hands carry germs you can't see



The illustration shows two hands side-by-side. The left hand is clean and orange. The right hand is blue and covered with green and purple germ-like shapes (some with spikes, some with flagella).

Wash your hands

www.cdc.gov/handwashing



What is “hand washing” for your herds?





United States Department of Agriculture

AFRICAN SWINE FEVER

African swine fever (ASF) is a virus that affects both domestic and wild pigs. It spreads very quickly and kills most pigs that get it. ASF has never been found in the United States.

Humans cannot get ASF, but they can carry it on clothing, shoes, and equipment. An outbreak in the United States would have devastating economic effects on the swine industry.

WHAT'S BIOSECURITY?

Biosecurity refers to all measures taken to keep diseases and pathogens that carry them—viruses, bacteria, fungi, parasites, and other micro-organisms—away from pigs, property, and people.

Protect Your Farm Using Biosecurity

People can spread disease without knowing it. To protect your pigs, use strong biosecurity practices on your farm—all day, every day.

- Routinely review and assess existing biosecurity plans with an accredited veterinarian, and update or improve if needed. No plan? Make one and follow it.
- Make sure anyone who comes to your farm—workers and visitors—knows and follows your biosecurity practices.
- Provide biosecurity training to new workers or anyone on your farm.



KNOW WHO & WHAT IS ON YOUR FARM

Don't let anyone carry disease onto your farm.

- Limit on-farm traffic as much as possible.
- Keep detailed records of all people, vehicles, and equipment at your farm or other pig production facilities.
- Clean and disinfect all equipment and vehicles entering or leaving your site.
- Isolate sick pigs from the herd, and keep them away from visitors.
- Ask visitors about recent international travel. Don't let anyone who has been in an ASF-affected country onto your farm for at least 5 days after returning to the United States.
- Make sure visitors wear clean clothes and shoes at all pig production facilities and farms.



Help keep U.S. pigs free of this deadly disease!

Need more info? www.aphis.usda.gov

The U.S. Department of Agriculture is an equal opportunity provider, employer, and lender.

Animal and Plant Health Inspection Service
Program Aid No. 2237-4 • Issued March 2019

Disinfect

- Establish a “clean/dirty” line
- Wear site-specific footwear & coveralls/clothing (*dispose or leave them on-site*)
- Clean & disinfect all equipment & vehicles crossing the “clean/dirty” line



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United States Department of Agriculture

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Don't Bring It Home

INTERNATIONAL TRAVELERS could carry this disease back into the United States without knowing it. Take these steps to help keep U.S. pigs safe:



UNDERSTAND THE RISK

- ASF can be carried on clothing, shoes, and hands.
- It can also survive for months in pork products.

DECLARE ITEMS AND FARM VISITS

- Bring back only safe food and souvenir items. Check www.aphis.usda.gov/travelers to know what items can enter the United States.
- Declare any overseas farm visits to U.S. Customs when re-entering the country.

TAKE EXTRA PRECAUTIONS WHEN VISITING FARMS ABROAD

- If you visit any farm outside the United States, follow the farm's biosecurity protocols during your visit.
- Wear site-specific footwear and coveralls/clothing, and dispose of this protective gear before leaving the farm. If this gear isn't offered, wash and disinfect or throw away your shoes and clothes before returning to the United States.
- When you return to the United States, don't enter a farm or other location with pigs (including livestock markets, zoos, circuses, and pet stores with pot-bellied pigs) for at least 5 days.



Help keep U.S. pigs free of this deadly disease!
Need more info? www.aphis.usda.gov

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Animal and Plant Health Inspection Service
Program Aid No. 2237-3 • Issued March 2019

Isolate

- Ask about recent international travel
- Don't bring meat products into the U.S.
- Control & track traffic on & off your farm
- Don't feed "garbage"
- Isolate pigs returning from shows



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Know the Signs and Symptoms

REPORT SICK PIGS

THERE IS NO TREATMENT or VACCINE for ASF. Protect your herd by knowing the signs and immediately reporting any sick pigs.

WHAT TO LOOK FOR



- High fever
- Loss of appetite
- Depression
- Weakness
- Red, blotchy skin or skin lesions
- Vomiting
- Diarrhea
- Coughing or difficulty breathing
- Abortions
- Sudden death

HOW TO REPORT

If your pigs show any of these signs, report it immediately to your veterinarian or animal health officials for appropriate testing and investigation. Quick detection is essential to preventing the spread of ASF.



Help keep U.S. pigs free of this deadly disease!

Need more info? www.aphis.usda.gov

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Monitor & Report

- Monitor for signs of illness
- Monitor daily mortalities
- Report suspicious signs & deaths

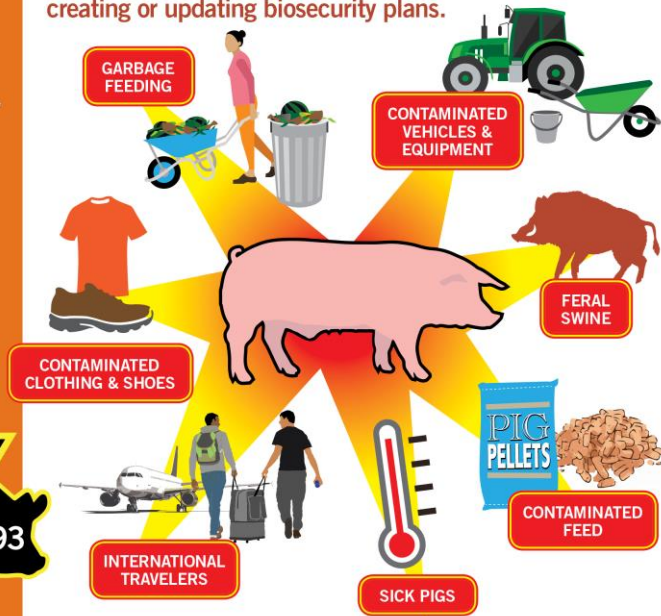
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Don't Spread This Deadly Disease

It's easy to spread ASF—without even knowing it. The virus can stay on clothing and equipment and survive for months in pork products. Be aware of these potential pathways and consider them when creating or updating biosecurity plans.



**Help keep U.S. pigs free of this deadly disease!
Understand how the virus spreads, and
do your part to protect against it.**

Need more info? www.aphis.usda.gov

The U.S. Department of Agriculture is an equal opportunity provider, employer, and lender.

Animal and Plant Health Inspection Service
Program Aid No. 2237-1 • Issued March 2019

Teach

- Tell your family, neighbors, & workers how to tell if pigs are sick & how to practice good biosecurity

STOP & TAKE 5 STEPS TO KEEP YOUR PIGS HEALTHY

- 1 DISINFECT
- 2 ISOLATE
- 3 MONITOR
- 4 REPORT
- 5 TEACH



YOUR GEAR WAS JUST AT A SHOW, DISINFECT.


Disinfect your trailer, equipment, feed buckets and pans before you get home. Don't forget your clothes and shoes!

Learn more at IowaAgriculture.gov/FAD

IOWA DEPARTMENT OF AGRICULTURE & LAND STEWARDSHIP

STOP & TAKE 5 STEPS TO KEEP YOUR PIGS HEALTHY

- 1 DISINFECT
- 2 ISOLATE
- 3 MONITOR
- 4 REPORT
- 5 TEACH



UNLOAD YOUR TRAILER AND ISOLATE.


It's important to keep the pigs that traveled to the show away from other pigs once you arrive at home. Be sure to isolate until you confirm they're illness-free.

Learn more at IowaAgriculture.gov/FAD

IOWA DEPARTMENT OF AGRICULTURE & LAND STEWARDSHIP

STOP & TAKE 5 STEPS TO KEEP YOUR PIGS HEALTHY

- 1 DISINFECT
- 2 ISOLATE
- 3 MONITOR
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- 5 TEACH



AFTER YOU'RE HOME, MONITOR.

After traveling to a pig show, monitor the health of your pig. Contact your veterinarian if it shows any signs of illness.

Learn more at IowaAgriculture.gov/FAD

IOWA DEPARTMENT OF AGRICULTURE & LAND STEWARDSHIP

STOP & TAKE 5 STEPS TO KEEP YOUR PIGS HEALTHY

- 1 DISINFECT
- 2 ISOLATE
- 3 MONITOR
- 4 REPORT
- 5 TEACH



IS YOUR PIG ACTING UNUSUAL? REPORT IT.


You know your pig best. If your pig is displaying signs of illness, quarantine it and contact your local veterinarian. Symptoms may include anything from a fever to strange skin coloring and unusual skin lesions.

Learn more at IowaAgriculture.gov/FAD

IOWA DEPARTMENT OF AGRICULTURE & LAND STEWARDSHIP

STOP & TAKE 5 STEPS TO KEEP YOUR PIGS HEALTHY

- 1 DISINFECT
- 2 ISOLATE
- 3 MONITOR
- 4 REPORT
- 5 TEACH



YOU KNOW YOUR STUFF, NOW TEACH OTHERS.

Foreign Animal Disease is a constant risk to the livestock industry. Everyone can play a role in protecting our animals. Practice good biosecurity, then teach your family, neighbors and workers to do the same.

Learn more at IowaAgriculture.gov/FAD

IOWA DEPARTMENT OF AGRICULTURE & LAND STEWARDSHIP

5 STEPS TO KEEP YOUR PIGS HEALTHY:

- 1 DISINFECT**
Disinfect your trailer, equipment, feed buckets and pans as soon as you get home. Don't forget your clothes and shoes!
- 2 ISOLATE**
It's important to keep the pigs that traveled to the show away from other pigs once you arrive at home. Be sure to isolate the pigs until you confirm they're illness-free.
- 3 MONITOR**
After traveling to a pig show, monitor the health of your pig. Contact your veterinarian if it shows any signs of illness.
- 4 REPORT**
You know your pig best. If your pig is displaying signs of illness, quarantine it and contact your local veterinarian. Symptoms may include anything from a fever to strange skin coloring and unusual skin lesions.
- 5 TEACH**
Foreign Animal Disease is a constant risk to the livestock industry. Everyone can play a role in protecting our animals. Practice good biosecurity, then teach your family, neighbors and workers to do the same.

Learn more at IowaAgriculture.gov/FAD

THANK YOU FOR VISITING IOWA

Pork production is a \$36.7 billion industry in the state of Iowa.

Keeping pigs healthy is a priority for everyone in pork production.

IOWA DEPARTMENT OF AGRICULTURE & LAND STEWARDSHIP

Recommendations from around the world:

ASF AFRICAN SWINE FEVER
โรคหิวาต์แอฟริกาในสุกร

เป็นโรคไวรัสที่ระบาดในสุกร หากสัตว์โรคจะทำให้ตายเป็นจำนวนมาก ยังกินมีโรคอื่นและวิธีการรักษาที่จำเพาะ เป็นโรคที่ไม่ติดต่อสู่คน สามารถอยู่ในสิ่งแวดล้อมหรือซากได้นานหลายเดือน ประเทศที่มีการระบาด จะมีผลกระทบที่รุนแรงต่อเศรษฐกิจและสังคม

อาการของโรค

- ตายเฉียบพลัน มีไข้สูง
- ผิวหนังแดง มีตุ่มเลือด
- ออกจากรอหายใจโดยเฉียบพลัน
- ตายภายใน 1 ถึง 2 สัปดาห์

การติดต่อของโรค

- การสัมผัสโดยตรงกับสัตว์ป่วย
- การสัมผัสกับสิ่งแวดล้อมที่ปนเปื้อน
- การสัมผัสกับซากสัตว์ป่วย
- การสัมผัสกับเลือดหรืออวัยวะอื่น
- การสัมผัสกับอาหารที่ปนเปื้อน
- การสัมผัสกับน้ำที่ปนเปื้อน
- การสัมผัสกับมูลสัตว์
- การสัมผัสกับน้ำที่ปนเปื้อน
- การสัมผัสกับซากสัตว์ป่วย
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- การสัมผัสกับน้ำที่ปนเปื้อน
- การสัมผัสกับมูลสัตว์

1 ส.ก. 2561 สาธารณรัฐประชาชนจีน พบการระบาดของโรค ASF ในสุกร

กรมปศุสัตว์ กระทรวงเกษตรและสหกรณ์

AFRICAN SWINE FEVER ON-FARM BIOSECURITY

FACT Human actions are most often responsible for the spread of ASF

ASF has a devastating effect on a swine herd. On-farm biosecurity is key to prevent disease from spreading and saving lives. Here is how farmers can help:

- Avoid contact with pigs from other farms
- Never feed pigs any meat or meat by-products
- ASF is harmless to humans, but even a small amount of the virus can be fatal to pigs

Remember: It is illegal to feed meat to pigs, including animal products that contain meat or meat by-products

TRAVELLERS and VISITORS

You must stay vigilant when it comes to visitors on your farm. All visitors and workers coming to your farm, particularly those who have visited a country that is currently infected with ASF should:

- follow strict biosecurity measures prior to returning to your farm.
- wear clean clothes and footwear.

Remember: when returning to Canada, travellers MUST declare at the border all farm visits and animal contact

For more guidance on on-farm disease prevention, swine producers should consult the Canadian Swine Health Board's National Swine Farm-Level Biosecurity Standard

cpc-ccp.com/biosecurity

Canadian Food Inspection Agency Agence canadienne d'inspection des aliments

Canada

ASF kills pigs

African swine fever (ASF) is not a danger to humans but kills domestic and wild pigs. There is no vaccine against it.

AFRICAN SWINE FEVER Don't be the carrier of a deadly pig disease

COMMERCIAL PIG FARMS
Reinforce your biosecurity measures on your farm.

PIG FARMERS
Take measures in your backyard and at the market, to protect your pigs and your neighbour's pigs from the risk of ASF.

HUNTERS
During hunting trips, especially in places considered at risk of ASF, make sure you disinfect your equipment before leaving the hunting area.

TRAVELLERS
Do not carry the ASF virus by transporting pigs or carrying pork products.

TRANSPORT AUTHORITIES AND CHECK POINT STAFF
(airports, harbours, rail stations, highways)
Know the countries infected with ASF and systematically check for travellers carrying animals or animal products, in particular pigs or pork products.

Do not visit pig farms in affected areas

www.oie.int/asf

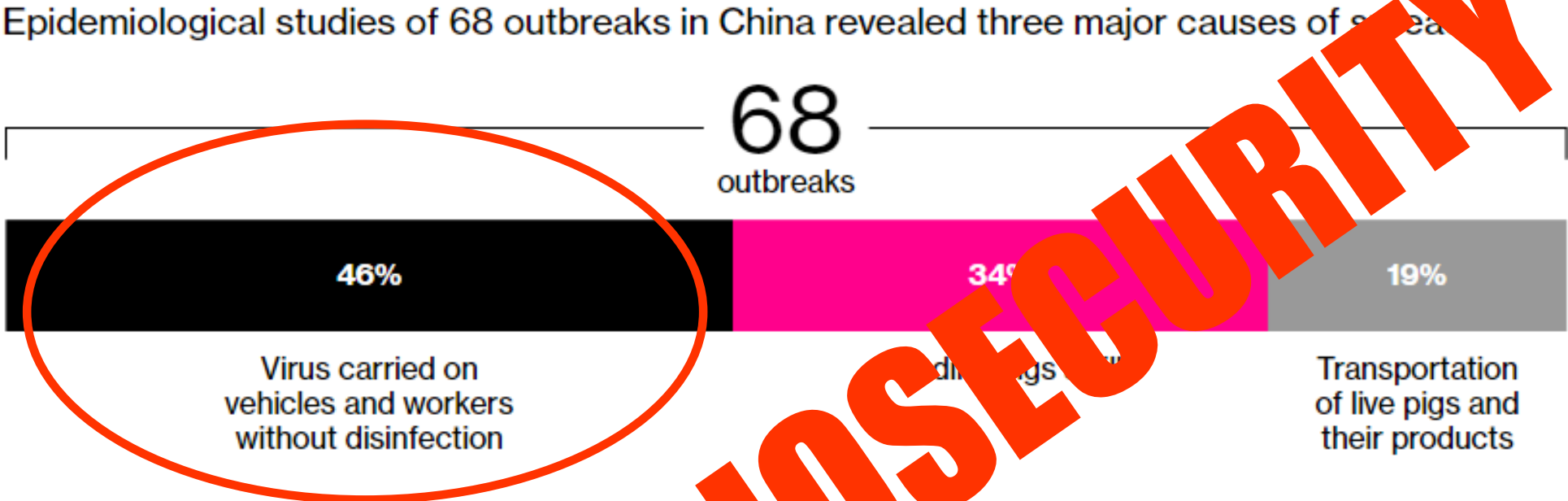
OIE WORLD ORGANISATION FOR ANIMAL HEALTH
Protecting animals, preserving our future

There is an increased risk of African Swine Fever spreading to the UK

Protect your pigs by never feeding them catering waste or kitchen scraps and practising good biosecurity

Animal & Plant Health Agency

Recommendations from around the world:



Source: China's Ministry of Agriculture and Rural Affairs

Source: <https://www.bloomberg.com/graphics/2019-eliminating-african-swine-fever/>

Biosecurity Resources

Iowa Department of Agriculture & Land Stewardship Biosecurity Webpage:
<https://iowaagriculture.gov/animal-industry-bureau/biosecurity>



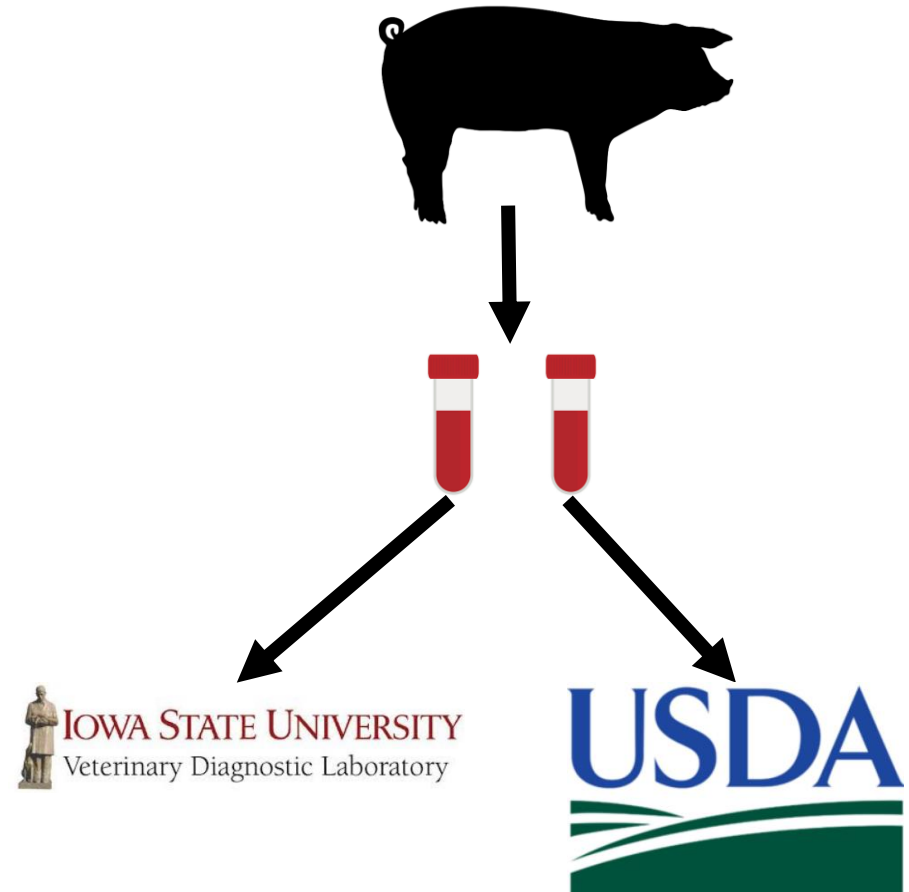
IDALS Response



Response:

I. Detect

- I. Producer/Veterinarian reporting
- II. FAD Investigations
- III. Surveillance Testing



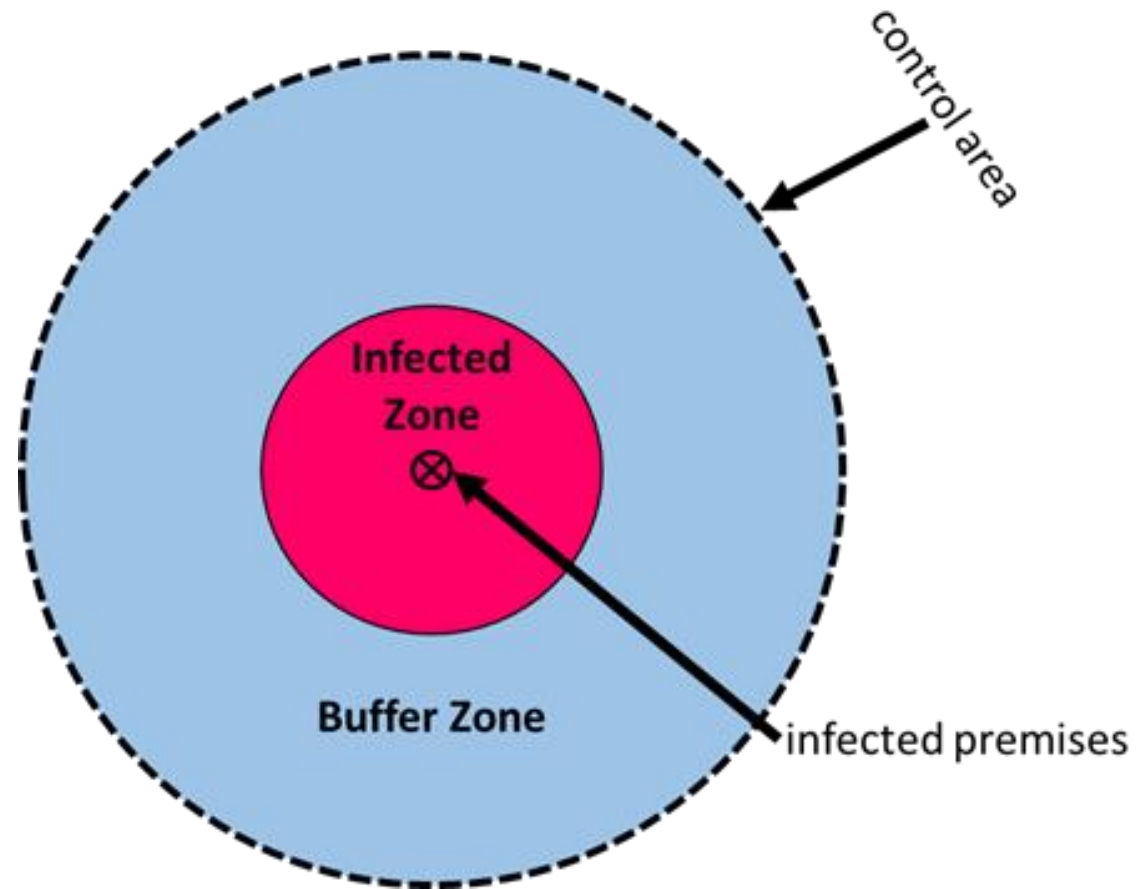
Response:

II. Biocontainment

I. Standstill Order

II. Quarantine

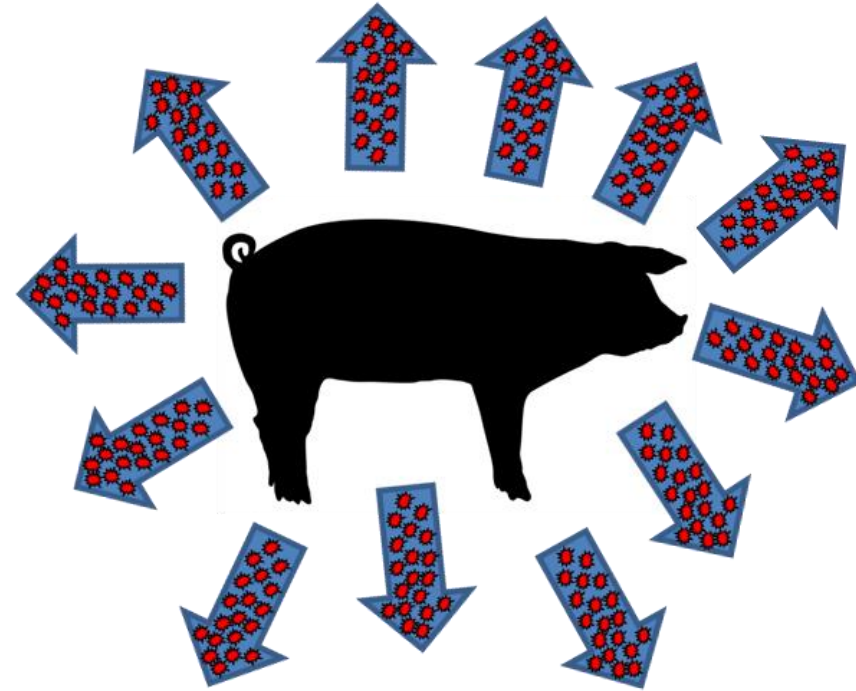
- Control Area
 - *Permitting*



Response:

III. Eliminate

- I. Depopulation
- II. Disposal



Goal: On-Site Disposal





For more information

visit:

iowaagriculture.gov/animal-industry-bureau/african-swine-fever

or email:

Andrew.Hennenfent@IowaAgriculture.gov



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Iowa Farm Bureau's Margin Management Webinar Series presents:

African Swine Fever: A Global Threat

Please fill out a brief evaluation:

<https://tinyurl.com/asfthreat>

Webinar recordings & materials will be available

at <https://tinyurl.com/asfjuly>

Speaker:

Dr. Andrew Hennenfent

**Emergency Management Coordinator for Animal Health,
Iowa Department of Agriculture and Land Stewardship**