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

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

Today’s Discussion

- Overview of Foreign Animal Diseases (FADs) in the SPS Plan
  - Foot and mouth disease (FMD)
  - African swine fever (ASF)
  - Classical swine fever (CSF)

- Transmission of these diseases

- Disease monitoring (Surveillance) concerns
Foot and Mouth Disease

Foot and Mouth Disease (FMD)

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

NOT a public health or food safety concern

- Cattle
- Pigs
- Sheep
- Goats
FMD Around the World

OIE Members' official FMD status map

Source: OIE Member Countries’ official FMD status map

UK ‘01, ‘07
Korea ‘10
Japan ‘10

Center for Food Security and Public Health
Iowa State University
Signs of Foot and Mouth Disease

**Snout**

![Image of pig's snout with red circles highlighting areas of interest](image)

**Feet**

![Image of pig's feet with red circles highlighting areas of interest](image)
African Swine Fever

African Swine Fever (ASF)

- Affects domestic and feral pigs
- No treatment or vaccine

NOT a public health or food safety concern
Source: OIE Member Countries’ official ASF status map

Could ASF Occur in the U.S.?

People

Meat

Production Inputs

Center for Food Security and Public Health
Iowa State University
Signs of African Swine Fever

Overall

Skin

Ears

Tail

Hams

Lower leg
Signs of African Swine Fever

Digestive Tract

Reproductive

Center for Food Security and Public Health
Iowa State University
Signs of African Swine Fever

Sudden Death

Photo credit: Prof. Zygmunt Pejsak

Signs of African Swine Fever

Photo credit: Prof. Zygmunt Pejsak
Classical Swine Fever

Classical Swine Fever (CSF)

- Affects domestic and feral pigs
- No treatment

NOT a public health or food safety concern
CSF Around the World

Source: OIE Member Countries’ official CSF status map

Could CSF Occur in the U.S.?

Meat
People
Production Inputs
Signs of Classical Swine Fever

Overall

Digestive Tract
FMD, ASF, and CSF Transmission

Spread of FMD, ASF, or CSF Virus

Saliva, Breath
Urine, Manure
Milk
Biting Insects
Semen
FADs can be Carried on Equipment

Infected farm → Equipment → Footwear, Clothing → Uninfected farm

Vehicular traffic

ASF Transmission Concerns

Uncooked/undercooked garbage or plate waste
### ASFV survival in batch 4 samples (30 DPI).

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>SVA (FMDV)</th>
<th>ASFV</th>
<th>PSV (SVDV)</th>
<th>PEDV</th>
<th>FCV (VESV)</th>
<th>PCV2</th>
<th>BHV-1 (PRV)</th>
<th>PRRSV</th>
<th>BVDV (CSFV)</th>
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**Slide credit:** Dr. Scott Dee
Disease Monitoring (Surveillance) Concerns

Biosecurity is critical

Shedding of FMD virus

Normal appearing animals can spread the disease

Shed the virus 2 to 4 days before clinical signs appear

Biosecurity is critical
ASF and CSF may resemble other swine diseases

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

Disease Monitoring for FADs

Emergency Action Plan

Diagnostic Testing