Swine Enteric Coronaviruses
PEDv and PDCoV

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Outline

- Disease overview
- National statistics
- Federal order
- State activities
• *Coronaviridae*

• Also includes other swine viruses:
  – transmissible gastroenteritis virus (TGEv),
  – porcine respiratory coronavirus (PRCv), and
  – porcine hemmaglutinating encephalomyelitis virus (HEV)

• No cross protection with TGEv OR PDCoV
PEDv

- 1970’s – Europe - sporadic
- 1982 – Asia – endemic and more severe
- PEDv Confirmed in U.S. **May 2013**
- U.S. strain is nearly identical to Asian strain
Incubation period: 1-4 days

Virus shedding: 7-10 days

Acute diarrhea that can affect 100% of herd

High mortality in piglets less than 7 days old

Older pigs usually recover
PEDv

• **BILLIONS** of viral particles are shed by infected piglets

• Transmission:
  – Fecal-oral transmission,
  – fomites,
  – aerosol?
PEDv Control

• Biosecurity critical... due diligence needed
• Think - Sterile surgical field comparison
• Herds are becoming re-infected
PDCoV

• Porcine deltacoronavirus (PDCoV) confirmed in U.S. February 2014

• Genetically similar to Hong Kong virus

• Mortality rates less than with PEDv

• No immunity protection from PEDv
PEDv Biological Accessions

PEDV Positive Biological Accessions

Created: July 9, 2014

Positive Accessions with No State Recorded: 90
PD CoV Positive Biological Accessions

PD CoV Positive Biological Accessions
Created: July 9, 2014
Positive Accessions with No State Recorded: 10
Swine Enteric Coronavirus Diseases

• Affect only swine
• Not a food safety issue

BUT:

• Devastating to the swine industry
• May impact international trade

THEREFORE:
USDA Federal Order:

• June 5, 2014
• Requires Novel Swine Enteric Coronaviruses be reported
• Federal funds allocated to combat disease
What Reportable Means?

- MDARD updated reportable animal disease list
  - Information shared with MDARD or USDA
- No movement controls
- No quarantines
- Herd management plan required
Federal Funds

- USDA emergency funds – $26.2 million
  - Vaccine research
  - Laboratory testing
  - Cost share for producer biosecurity measures
  - State cooperative agreements
  - Private practice vets – herd management plans
Information Sharing

- Informed Swine Health Committee June 9th
- Met with MI Pork Producers Assoc. Board Members June 11th
- Met with MSU Swine Extension Team
- Informed licensed veterinarians of new reportable disease
Cooperative Agreement

- MI received $92,000
- How are funds being used?
  - Commercial herd vehicle biosecurity
  - Veterinarian training – HMPs
  - Show swine sow herd producers – biosecurity
  - Personnel
Summary

- PEDv and SDCoV economically impacting swine industry
- **No Food Safety or Public Health Concern**
- Acute diarrhea disease
- Required report novel swine enteric coronavirus
- Federal funds available
- MDARD working with industry
Questions?

Michigan Department of Agriculture & Rural Development

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