



Swine Enteric Coronaviruses PEDv and PDCoV



Michigan Department of Agriculture & Rural Development

Drs. James Averill and Nancy Barr
Animal Industry Division



Outline

- Disease overview
- National statistics
- Federal order
- State activities



PEDv

- *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



PEDv

- 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

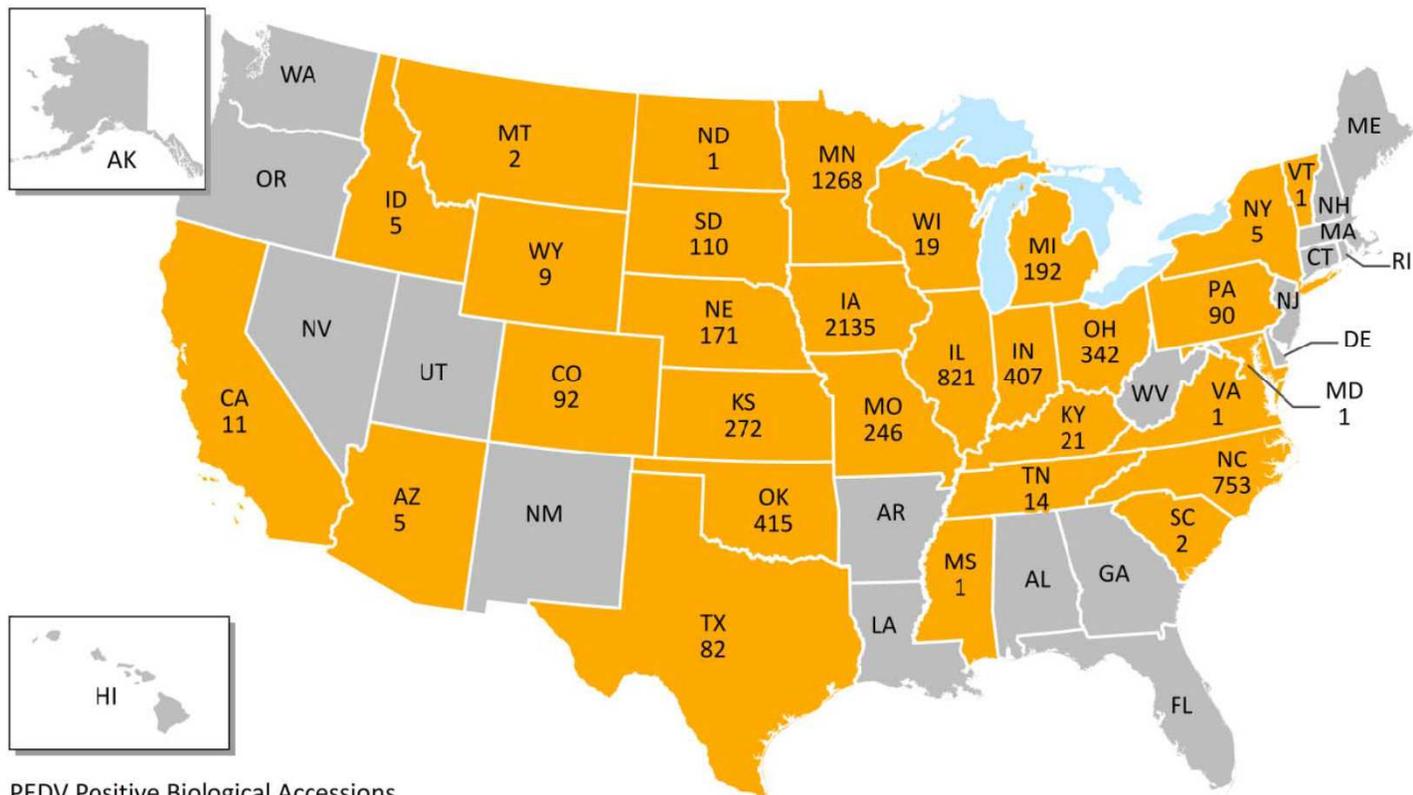
- Porcine deltacoronavirus (PDCoV) confirmed in U.S. February 2014
- Genetically similar to Hong Kong virus
- Mortality rates less than with PEDv
- No immunity protection from PEDv





PEDV Biological Accessions

PEDV Positive Biological Accessions



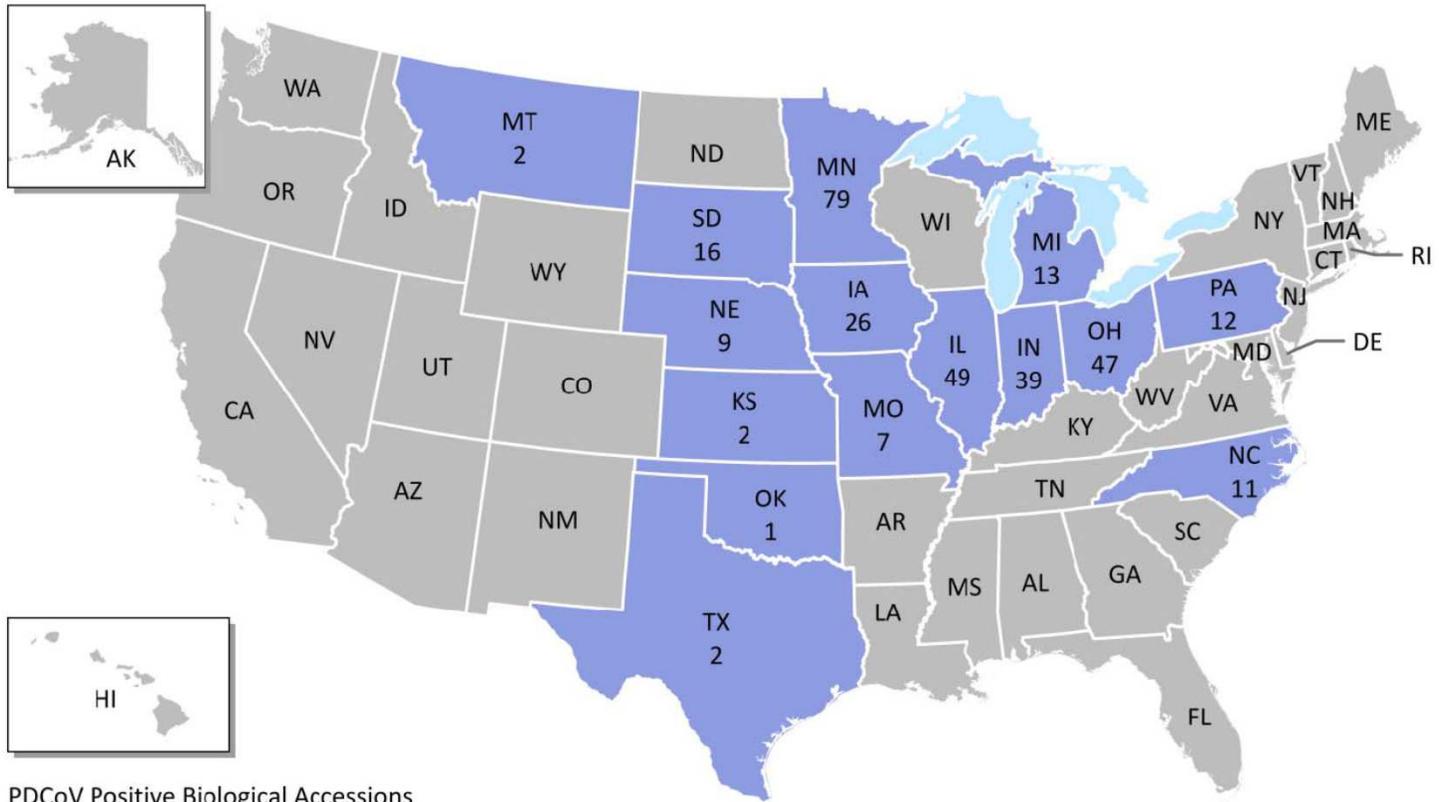
PEDV Positive Biological Accessions
Created: July 9, 2014

Positive Accessions with No State Recorded: 90



PDCoV Positive Biological Accessions

PDCoV Positive Biological Accessions



PDCoV 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

Stay connected with MDARD!



Michigan Department
of Agriculture



@MichDeptofAg



Mlgriculture