Emerging Disease Update

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Emerging Diseases of Swine

• Examples of recent, emerging diseases of concern:
  – High Pathogenic PRRS (nsp2 deletion-China)
  – Porcine Circovirus Type 2b (China)
  – Porcine Kubovirus
  – Porcine Epidemic Diarrhea Virus
  – Seneca Valley Virus

• What has changed that we see more of these emerging viruses? What’s next???
Porcine Epidemic Diarrhea virus

- On May 17th, 2015 the US reached the 2-year mark post-diagnosis of the first case of PEDV.
- Since that time, nearly all major (and many not so major) swine states have had positive cases reported for PEDV.
  - 32 different states involved
- Swine Enteric Coronaviral Diseases (SECD) have “upped the ante” for biosecurity on-farm
- More than $3.5 million spent on PEDV to help manage the disease
States with PEDV Cases

PEDV Confirmed Positive and Presumptive Positive Premises since June 5, 2014 (confirmed/presumptive)
Created: 09/22/2015
Seneca Valley Virus (SVV)

- Picornavirus, been in US since 1988
- Cannot distinguish between it and FMDV
Seneca Valley Virus
Seneca Valley Virus – clinical cases
Seneca Valley Virus

**Graph: Frequency of SVV cases reported**

- **Source:** 10/23 SHMP
# SHIC Seneca Valley Virus Research

## Swine Health Information Center
- Screen oral fluid samples
- Duration of shedding in finishing pigs
- Duration of shedding on sow farms
- Sequencing and characterization of the virus
- Diagnostics
  - ELISA for serology
- Efficacy of disinfectants

## USDA
- Epi surveys on affected farms
- Koch’s Postulates
  - Historical US
  - Contemporary US
  - Brazilian

## Distribution
- Manage Movements
- What’s different?
- Tools
- Cleaning up

## Risk factors
- Missing something?

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People. Pigs. Planet.
Seneca Valley Virus

Communication and coordination

• Focus on FAD investigations and prevent complacency
• Periodic conference calls started August 7 with variety of SMEs and stakeholders – PED model
• Coordinating research call with VDLs, USDA-NVSL, USDA-FADDL, USDA-RIU, USDA-ARS
• SAHO National Assembly updates
• USDA-APHIS; USDA-FSIS
• NPPC’s Packer Processor Industry Council
• AASV’s Swine Health Committee
SVV Update

• Bottom line communications/actions:
  – If identified, immediately notify state vet and stay on farm; Wait until diagnosis is confirmed – do not assume...that it is SVV and not FMDV.
  – If identified, do not market animals with active lesions/illness.
  – Contact/work with packer to schedule when can eventually sell recovered pigs.
  – SVV is not trade-limiting but have to be aware and take appropriate actions so we do not miss FMDV!!
SVV Update

• For more information on SVV and other emerging diseases, visit: [www.swinehealth.org](http://www.swinehealth.org)
How do we get better prepared for the “next time”?
Emerging Disease Issues

- Recent emerging diseases have highlighted a gap in protection of animal health (domestically and internationally)

- PED and SVV have shown the need to focus on identifying the gaps and resources to support US agriculture/animal health

- Therefore, there is a strong need for an Emerging Disease Response plan
Is looking enough?

HINDSIGHT
Those really were the droids you were looking for.

https://www.topnotchtablets.com/node/24
U.S. Swine Health Monitoring Project

http://www.cvm.umn.edu/sdec/SwineDiseases/pedv/index.htm

These producers are willing to share their premises IDs and pathogen status in the interests of national disease control.

752 breeding sites
(20 systems)

2.1M sows
PEDV Monitoring

Chart 4 - PED EWMA Analysis for years 2013 - 2016

Classification Scheme
1. Positive Unstable
2. Positive Stable, Ongoing field virus exposure
3. Positive Stable
4. Provisionally Negative
5. Negative

Number of sows: 2,535,866
Number of farms: 995

Recent PED EWMA

People. Pigs. Planet.
Working on Our Preparedness

1. Response Plan
   - NPPC is managing in 2015
   - Coordinated state-federal-industry response

2. Swine Matrix Project = Identifying “What’s next?”
   - AASV is managing in 2015
   - Will need research and updating

3. Swine disease information sharing
   - NPB is managing in 2015
   - Swine Health and Information Center
Development of an Emerging Disease Plan

- **USDA - ongoing**
  - Working on Emerging Disease Response plan
  - National List of Reportable Animal Diseases (NLRAD)

- **NPPC - ongoing**
  - Reinstate concept of Swine Health Board
  - Working on Emerging Disease Plan – all stakeholders (USDA included)

- **Swine Health Information Center (SHIC)**
  - NPB one-time funded at $15 million for 5 years
  - Utilize the AASV disease “Matrix” identifying future diseases/risks for research roadmap
  - Primary focus is on new and emerging diseases of swine
    - i.e. Seneca Valley Virus focus
Pork Board Resources Available

- All domestic, emerging and foreign animal disease research/updates are available at [www.pork.org](http://www.pork.org).

- **NEW**: Updated factsheet booklet available for 2016
One in Every Barn!

- Available @ The Pork Store
  - www.pork.org
  - Item #: 04892
- Free to Pork Producers
Biosecurity

Swine Health Recommendations: Exhibitors of All Pigs Going to Exhibits or Sales

In preparation for the exhibit or sale:
- Wash hands often:
  - Wash hands with soap and water before and after handling pigs and pigs’ environments.
  - Use hand sanitizers containing at least 60 percent alcohol to clean and disinfect hands.

Exhibit husbandry:
- Provide adequate space for pigs to move about.
- Keep pigs clean and dry.
- Provide fresh water and feed at all times.
- Provide shade and protection from extreme temperatures.
- Keep pigs free of parasites.
- Provide appropriate housing and bedding.

How to take my pig’s temperature?
1. Use a digital thermometer.
2. Position the pig’s rectum with your fingers.
3. Insert the thermometer into the pig’s rectum, and gently press it against the pig’s rectum. Do not use oil or other lubricants.

Digital Thermometer

Avoiding contact:
- Avoid contact with pigs and their environments.
- Wash hands after handling pigs.
- Avoid touching your face or eyes.
- Keep pigs away from other animals.
- Keep pigs away from people who are sick or coughing.

For more information, visit the National Pork Board’s website at pork.com/biosecurity.
Summary

• Emerging diseases like PED have proven to be major swine health challenges AND highlighted a gap in disease protection (domestic and international).

• Spring/summer of 2015 has been quiet for PEDV and SVV but unsure of what fall/winter 2016 will bring.

• Plans for dealing with emerging diseases are solidly underway including the development of the SHIC to focus efforts/research on emerging diseases.

• Cooperation and collaboration with all industry and government sectors a must for effective and timely disease control.
Questions?

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