PEDV Research Updates

• Porcine Epidemic Diarrhea virus (PEDV) continues to create significant challenges for producers. To assist producers and their veterinarians in the management, control and potential elimination of the virus, the National Pork Board has continued to fund key research projects.

• **NOTE:** The updates from the proposal represent interim information only and are not intended to be a final report. The final and formal reports will be provided at the end of the terms of the projects and then posted online at pork.org. The update information is intended to inform stakeholders of progress but are not intended to be the final outcome. For further information, please contact Dr. Lisa Becton at lbecton@pork.org.

#14-246 Swine Vet Center; Steve Tousignant, DVM
Infectivity of swine manure from pits at varying lengths of time post infection with Porcine Epidemic Diarrhea (PED) virus

**The objectives of this pilot project are:**
1. Improve our understanding of the risks posed by manure in pits transported and applied to fields, as well as risks to negative pigs entering potentially contaminated grow finish sites using samples from field infections rather than spiked samples from the lab.
2. Additionally, by sampling a large cross section of farms at 6 and 4 months post infection, it may be possible to detect associations between bio assay positive (or negative) pit status and variables we intend to measure for each barn and pit

**Methods:**
- 15 barns approximately 6 months post infection and 15 barns approximately 4 months post infection were selected for the study.
- Samples that tested positive by PCR were then tested by swine bio assay. 21 day old weaned pigs were used for the bio assay.

**Results:**
- **6 month post infection barns** – Of the 15 barns sampled, 14 tested positive by PCR (93%). Of these positive samples, 0 tested positive for live virus by swine bio assay.
- **4 month post infection barns** – Of the 15 barns sampled, 13 tested positive by PCR (86%). Of these positive samples, 2 tested positive for live virus by swine bio assay (2/13 = 15%).

**Discussion and preliminary conclusions:**
- These data suggest there could potentially be less live virus in manure pits than originally suspected. That said, 15% of the barns tested by bio assay were positive for live virus.
- An important limitation, however, of this study is that we tested only 20 mL of manure from pits that contain upwards of 1 million gallons. Additionally, we sampled only around the outside of the barn through the pump outs.

- **In conclusion, it is still prudent to be careful when sequencing pit pumping crews in the fall of 2014.**

- **As before (with diseases such as PRRS), clean sites should be pumped first, followed by barns that have had the longest amounts of time post PEDV infection and then working towards the barns that have had less amount of time post infection.**

- **Communication with neighboring swine farms is crucial, especially when manure has to be applied near to their sites.**