

Buying Station Biosecurity Review and Suggestions:

7-3-13

Background: PEDv (Porcine Epidemic Diarrhea Virus) was found in the US swine herd for the first time on samples collected on April 15. Since that time, the virus has spread throughout the major swine producing states causing diarrhea and death loss in young pigs. The first identified case in NC swine was on 6-20-13 near Faison, NC. To understand how the virus arrived in NC and to address risk factors for spread between producers, a survey of 4 cull animal collection points in eastern NC was performed on June 27 and 28.

The survey consisted of a questionnaire relating to biosecurity practices at the buying stations, number of animals process by type (breeding v/s growing), maximum and average holding time, states of origin, destination states for slaughter animals, locations of linked sites through live animal movements, physical facility structure including numbers of loading chutes, flooring type, and wash procedures, disinfection procedures, dead animal disposal, use of recycled water, truck wash procedures, and biosecurity related equipment provided to a driver delivering swine. Additionally, if granted permission, swabs of incoming chutes and fecal samples of animals were collected for testing for PED and TGE.

Summary Results: Results are combined from all units and do not represent any one individual facility. Capacity and load counts are for an individual facility and are not the sum of all facilities. The owner/manager was the person interviewed.

Do employees work on a swine facility other than the buying station: **4/4 NO**

Do employees live with someone who works on a swine farm: **3 NO, 1 Don't Know**

Do employees receive any formal biosecurity training? **3 NO, 1 Yes**

Are employees PQA or TQA trained? **3 NO, 1 Yes**

Are clothes dedicated to the site? **2 Yes, 2 No**

Shower facility utilized? **4/4 No**

Does the site empty routinely? **4/4 No**

Capacity: **Range was 300hd to 3000hd**

Average Daily inventory: **200hd to 1500hd**

Average Holding Time: **12 to 36 hours**

Maximum Routine Holding Time: **2-4 days, some rare exceptions are longer.**

Incoming drops per week of Cull Breeding Stock: **2 to 17.5**

Incoming drops per week of Cull Growing Pigs: **0.25 to 25**

Outgoing Loads per week of Cull Breeding Stock: **1 to 11**

Outgoing Loads per week of Cull Growing Stock: **0.25 to 25**

States of origin for all incoming animals: **NC, SC, VA, GA**

Destination states for outbound animals: **NC, SC, GA, OH, MI, IA, TN, NJ, PA, + Don't Know**

Don't know reflects loads that are picked up by a buyer and the seller does not know the final destination. These were termed "buyer loads".

Are trucks clean when coming to pick up animals? **2/4 Yes, 2/4 Yes and No***

***Common for trailers to be rinsed and not disinfected although some were disinfected routinely. It was common for trailers to haul cattle or pigs into NC for slaughter (culls mostly) and then pick up cull sows after a wash for delivery to a cull sow plant in any one of several states. It was noted by several interviewees that it is possible and likely that cull swine from PED positive areas have been coming into NC for slaughter.**

How many loading chutes are available? **2-5**

Chute wash frequency: **between loads to once per week**

Boot wash station for drivers: **2 Yes, 2 No**

Can the driver area be washed and disinfected (ie is it concrete?) **2 Yes, 2 No**

Do employees enter trucks? **2 No, 2 rarely**

Are chutes designated and segregated for incoming and outgoing? **4/4 No**

Can chutes be designated and segregated for incoming and outgoing? **4/4 YES**

Can chutes used for unloading be washed and disinfected routinely? **4/4 Yes**

Do you use any recycle water? **4/4 No**

Do you have a truck wash on site? **2 Yes, 2 No**

How do you dispose of dead animals? **4/4 Rendering; 2 deliver, 2 have boxes picked up.**

Have you seen any increase in diarrhea in pigs? **4/4 NO**

Do you work with or consult a veterinarian regularly? **4/4 No**

Can we take samples today/routinely of oral fluids or feces? **4/4 YES**

Testing Results: 14 samples were tested for TGEv and PEDv by PCR.

4 swabs were taken from the most commonly used chute for incoming animals at the truck end of the chute. **3 PED Positive, 0 TGE Positive.**

10 swabs from swine with diarrhea or loose feces in pens: **6 PED Positive, 1 TGE Positive**

Suggestions for Immediate Consideration to Reduce risk of spreading PED

1: Label and segregate chutes as much as possible.

- a. **Loading chute** to be used for outbound animals going to slaughter. Do not unload animals at this chute because they would become infected immediately and start shedding viruses within 24 hours.
- b. **Unloading chute** for trailers delivering animals from a farm
 - i. Unloading Cull sow chute if possible
 - ii. Unloading Growing pig chute if possible
 - iii. Unloading "HOT" chute for deliveries from known positive farms- segregate these known positive animals from the general population if possible (no nose to nose contact)
 - iv. Continue to provide an area for drivers to discard their disposable coveralls and disposable boots.

2: Wash and disinfect all **unloading chutes and driver areas as often as possible.**

- a. Wash all the fecal material off the chute and driver area first.
- b. Apply a 2% phenol based disinfectant (examples include: TekTrol, One Stroke Environ, Pheno-Tek II) to the areas where drivers walk to enter the chute, the chute from the point the driver enters to the top, and all areas where the chute contacts the truck.
- c. Phenols will work the best because they are the most active when there is some organic material present.

- d. A water medicator pump set to inject 2% (Dosatron makes one) can be installed and hooked up to a water hose beside the chute for ease of application.
- e. If possible, make the driver contact area as small as possible
 - a. Rework facilities so the driver can enter the loading chute without having to walk through holding areas where he could be contaminated.

3: Require all trailers used to pick up animals be cleaned and disinfected before arrival

- a. Even though most of these trailers have been washed, many were not disinfected.
- b. Provide disinfectant to be used at the wash pits currently. Always allow disinfectant to dry before using the trailer for best results. It may be best to use a mild disinfectant like Synergize on trailers if they are going to be loaded quickly after disinfection.

4: Provide coveralls and boots for employees to wear. These coveralls and boots should stay on the site and be washed routinely.

- a. This will reduce the tracking of diseases into stores, gas stations, etc.
- b. Routine boot washing and disinfection when crossing over areas where drivers have to walk (especially around the unloading chutes)

5: Consider utilizing the formal Pork Board programs for Trucker Quality Assurance (TQA) and Pork Quality Assurance Plus (PQA Plus)

- a. These programs provide standardized, documentable training on animal handling, biosecurity practices, worker safety, and food safety.
- b. If you are interested, contact the North Carolina Pork Council and they can arrange a training session.

I appreciate the overwhelming openness of all the folks that took the time to complete the surveys and allow samples to be collected from the facilities. I hope we can all continue to work together to make the disruption due to PED as painless as possible and minimize any future diseases as well.

Dr. Matthew Turner