

Biosecurity during County Fair: PEDV

Considerations for exhibitors, parents and public.

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Porcine Epidemic Diarrhea Virus (PEDV), a pig coronavirus, is important to local pork producers and our industry. PEDV does not affect people or other livestock species and pork is safe for consumption.

The county fair is a gathering or collection point of pigs, similar to a buying station. All exhibitors' pigs coming from different growing sites may have different health statuses or disease history. To establish perspective, we suggest **viewing the fairgrounds as being PEDV positive**. Should the swine show be canceled? **NO!** Disease presence is not limited to PEDV; diseases such as swine influenza, erysipelas, PRRS (porcine respiratory and reproduction syndrome) and others may enter the fairgrounds as well.

The exhibitor, parent, swine producer, employees of a swine unit or any individual who attends a fair must take responsibility to not transfer disease(s) from the fair to a swine production site. This becomes an educational opportunity to highlight the importance of a farm's biosecurity plan. While a county fair can attempt to minimize the entry of sick pigs, it cannot eliminate the potential of a swine disease entering the fairgrounds.

How could PEDV spread at a county fair?

Transmission is oral contact/consumption of PEDV contaminated feces (fecal-oral). Pigs may come in contact with infected feces in the alley, wash bay and show ring if the virus has entered the premise. Contaminated water movement from a pen, alley or wash bay may also spread PEDV. Infected particles on hands, clothing, feed/water troughs, show equipment may also be a spread vector if they come in contact with PEDV contaminated feces.

Why is biosecurity important with PEDV?

- 1) No natural immunity in previously unexposed pigs.
- 2) Spread potential is great as microscopic/trace amounts of PEDV infected fecal particles can infect a pig.
- 3) No identified treatment can address a PEDV challenge ... the virus must run its course.
- 4) Highly effective vaccines are currently unavailable. Research continues.
- 5) Two known PEDV strains and one strain of Porcine Delta coronavirus (PDCoV) exist. No immunity cross-protection between PEDV and PDCoV. Both viruses cause similar disease symptoms.

Biosecurity is a combination of management practices designed to prevent the introduction and transmission of diseases and disease-causing agents into and between herds.

Each exhibitor and their family must decide on a biosecurity plan for their operation.

Where to start with biosecurity ... Establish Lines of Separation!

Line of Separation is defined as the line between a "potentially dirty area" where virus may be and a "clean area" where the virus isn't present. Examples:

- Line of Separation just inside barn door to designate where work shoes stop and barn shoes start.
- Draw the line for street shoes and work shoes ... house or garage or car/truck.

Where will you establish a Line of Separation for: clothes and shoes worn to the county fair?

Before the fair

- **Sick pigs (fever, nasal discharge, cough or diarrhea) and pigs infected with PEDV within 6 weeks of fair entry should NOT be brought to the fairgrounds.**
- Wash, disinfect and dry truck & trailer before taking pigs to fair. This reduces diseases hitching a ride to fairgrounds. After pigs are delivered, will make clean/wash/disinfecting the trailer easier.
- Keep inside of vehicles clean. May want mat to place under shoes and pedals
- Plan and minimize show equipment and personal items that will go to the fair. How will you clean/disinfect?

- Consider and plan people movement to/from the fairgrounds (exhibitors, children and parents):
 - How will you handle shoes and clothes worn to the fair? Wash at home, Grandma's, Laundry Center?
 - Which vehicle is used? Where does it park? Do you enter vehicle "dirty" or "clean"?
 - Consider other people that may attend fair: friends (child or adults), family, employees or vendors ... communicate the importance of biosecurity to your farm.
 - Consider allowing kids to sleep-over at grandma's, a relative or friend during the fair to minimize the number of vehicles and people go from fairgrounds the back to the pig farm.
- Include in your plan how feeders, waterers, show equipment, etc. will be cleaned/washed/disinfected prior to returning to farm
- If your fair has a non-terminal show and you will be taking pigs home, **the isolation period should be at least 60 days**. Plan an adequate isolation location and equipment to care for pigs and maintain a line of separation between the isolation and your pig farm.

At the fair

1. During the Fair

- Observe swine daily for signs of illness, which may include: loss of appetite (off feed or complete feed refusal), fever, nasal discharge, cough/"thump" or diarrhea.
- Wash hands often, especially prior to eating.
- Do not eat or sleep in pens next to the animals.
- Keep alley or common areas clean and dry.
Note: For many alley ways, it may be better to just scape/disperse barn lime/sweep clean. Barn lime will help dry alleyway surfaces and inactivate viruses.
- Clean, wash, disinfect and dry sorting boards, canes, other handling equipment.
- Fair veterinarian's make final determination for each pig 1) isolation or removal from fairgrounds, 2) health status to show and 3) health status for transport to market or leave fairgrounds.

2. Pig Release

- Upon release from fair, record where each pig is being transported to (IDALS form)
- If pigs are going home (non-terminal shows), pigs should be isolated from other pigs at the farm. Work with your veterinarian to establish an isolation plan.
If the pigs are exposed to PEDV, the isolation period should be at least 60 days. This is because a pig that becomes infected with PEDV can shed the virus for 42 days and depending on the weather conditions, the virus may survive outside of the pig, in the environment, several additional weeks.

After the fair – clean/wash/disinfect/dry show equipment, clothing and shoes

- Select disinfectants with label claim for Coronaviruses (Synergize, Tek-Trol®, DC&R® and Virkon®-S and others).
- Standard washing/drying clothes will inactivate PEDV. Additional measures: add bleach and allow dried clothes to sit an additional 24 hours before being worn in production area.

Porcine Epidemic Diarrhea Virus (PEDV)

The virus (a coronavirus) only infects pigs (not humans or other livestock). The virus infects and destroys the intestinal lining which limits nutrient uptake and causes the "epidemic diarrhea". Mortality is almost 100% in piglets less than 14 days. Adult and growing pigs are affected, but have enough body reserves to withstand the virus challenge until the intestinal lining is regenerated. PEDV does not affect pork or food safety- it is safe for consumption.

- **Transmission:** Oral contact with contaminated feces (fecal-oral)
- **Common source of infected feces:** Pigs, trucks, boot, clothing or other fomites
- **Incubation period (time from exposure to clinical signs):** Only 12 to 36 hours
- **Shedding (amount of time pigs can infect other pigs):** Up to 42 days but virus will remain in pig's environment 2-3 weeks.
- **Amount of virus needed to infect a pig:** Microscopic/trace amounts of infected fecal particles

Why is this important? Protect our local pork producers and pork industry (to the best of our ability). Be aware of the factors and create a plan. This cannot eliminate the risk, but reduces the risk. Enjoy the fair!