



Biosecure Manure Pumping Protocols for PEDV Control: Recommendations for Pork Producers

Key Points

The introduction of the porcine epidemic diarrhea virus (PEDV) into the United States presents a challenge for manure pumping. **Infection with PEDV can create tremendous financial losses to a producer.** PEDV is transferred via feces and survives in manure and slurry for extended periods of time. Anything that becomes contaminated with pig manure can be a source of infection for pigs.

PEDV can survive in fresh feces for at least a week and between four and six months in a slurry in deep pits. PEDV can survive in manure and slurry for longer time periods during cold weather. Virus survival also appears to be highly influenced by the manure pH. Fresh swine manure typically has a pH around 7.0. During storage, manure pH generally will increase to around 7.5 to 8.5. As manure pH approaches 8.0, virus survival seems to be adversely impacted. Testing of manure pH prior to pumping may provide some insight into the likelihood of active virus present in the manure.

COMMUNICATE with the Manure Hauler:

- When scheduling with the manure hauler:
 - » Find out when the manure-hauling crew will be coming to the farm and require to be notified when they arrive.
 - » Ask where the manure hauling crew has been prior to coming to your site.
 - » Ask what biosecurity procedures the manure-hauling crew uses between customers to understand disease risks to your herd.
- Discuss your biosecurity expectations for the manure-hauling crew.
 - » Share contact information between the manure-hauling crew and farm personnel.
 - » Plan entrance and exit to the site to minimize cross-over between the path for the manure hauling crew and the rest of farm traffic or areas used by farm staff.
 - » Explain the routes that should be used to transport manure to fields.
 - » Discuss how any manure spills are to be handled.
- Explain to the manure hauler the locations of where the “**Line of Separation**” on the farm site.
 - » The Line of Separation defines the area that is to be used by the manure-hauling crew and the area to be used by daily farm traffic and personnel.
 - » Do not let the manure-hauling crew cross over the Line of Separation.
- **Inform all your employees of the biosecurity requirements discussed with the manure hauling crew.**

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Prior to the time of pumping COMMUNICATE with the Manure- Hauling Crew:

- The manure-hauling crew is not to enter the barns, office areas or walk over areas used by farm personnel and should never come in direct contact with the pigs.
- Farm personnel need to avoid any direct contact with the manure-hauling crew and the pumping and application equipment.
- IF farm personnel must cross over the Line of Separation they must do the following:
 - » **Cover-up** with clean protective gear (clean boots, coveralls, gloves) before crossing to the manure-hauling crew side of the Line of Separation.
 - » **Dispose of or properly contain** any contaminated clothing in plastic bags/totes before crossing back to the farm side of the Line of Separation.
 - » **Follow all shower-in or other biosecurity protocols** of the farm before crossing back to the farm side of the Line of Separation.
 - » Clean and disinfect any reusable gear before it is again moved and used on the farm side of the Line of Separation.

At the time of pumping and spreading manure:

- Farm personnel and your farm equipment need to avoid any direct contact with manure, manure hauling personnel, or the manure hauling equipment. Disease can be accidentally spread to other farms through manure contamination of people, vehicles and equipment.
- Adding lime to manure to raise the pH can inactivate PEDV. To ensure virus inactivation, approximately 50 lbs. of quick lime per 1,000 gallons of manure should be used to achieve a manure pH of at least 10. Lime should not be added directly to a storage pit, but may be added to a tank wagon used to haul manure to the application site. Raising manure pH can create significant odors from ammonia volatilization and can cause precipitation (settling) of solids from the manure. In a pit, these settled solids may be difficult to remove without significant effort.

After pumping COMMUNICATE with the Manure-Hauling Crew:

- Require to be contacted when pumping is done. Identify and discuss if there were any problems, biosecurity breaches, manure spills or need for any clean up after pumping and hauling.
- Consider providing a water source away from the facility or traffic patterns for the manure hauling crew to use to clean your manure from their equipment before leaving the farm.

PEDV infection at a sow farm can create near 100 percent mortality of piglets. Cleaning, disinfecting and drying all equipment is mandatory if moving to any negative site, especially to a sow site.

The biosecurity protection of your herd is your responsibility. Protect the health of your herd and communicate your biosecurity expectations with your manure hauler to avoid disease introductions.