

Swine Health Producer Guide



Biosecure Manure Pumping Protocols for PEDV Control: Recommendations for Land Owners

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 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.

Producers and Manure Haulers face some challenges in order to control the risks of spreading PEDV when pumping:

- The steps necessary to prevent PEDV from being moved from farm to farm during manure pumping and hauling take planning and may impact the timing of getting manure applied to fields.
- Increased time between sites may be required for washing and disinfecting equipment.
- It is highly recommended that sites known to be currently or previously positive for PEDV be managed last in the sequence of sites for a farm or system.
- Communicating with the manure haulers to find out when they plan initiate and complete manure pumping can help you plan other on-farm activities that may be impacted by pumping and transportation.

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.

PEDV infection at the 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.