



Title: Swine Trailer Bio-Security Procedures

SOP Number: SOP058

Purpose: The purpose of this document is to outline and describe Texas Tech University Institutional Animal Care and Use Committee's position on the biosecurity measures with regards to trailers used at the New Deal Swine Unit (NDSU). Furthermore, this document provides guidance to faculty, staff and students at Texas Tech University with the most up to date cleaning and disinfection procedures and products to maintain proper biosecurity.

TEXAS TECH UNIVERSITY IACUC POLICY POSITION

With a goal of producing pigs for research, teaching and commercial needs at the facility, it is important economically and scientifically to maintain the health of the swine herd at TTU. To keep newly emerging commercial swine threats to a minimum at the NDSU, strict bio-security measures must be kept, to contain and mitigate any threat of disease outbreaks. Specific biosecurity measures have been outlined and supported with regards to the NDSU in other TTU Standard Operating Procedures (SOP) documents. This SOP specifically addresses the vehicles and equipment associated with the transportation of animals into and out of the NDSU.

BACKGROUND AND RATIONALE

- A. Historically, livestock transport has often been incriminated in the spread of infectious diseases such as:
 1. Porcine circovirus
 2. Transmissible Gastroenteritis Virus (TGE)
 3. *Salmonella* and *E. coli*
 4. Mycoplasma
 5. *Streptococcus suis* and *Haemophilus parasuis*
 6. Foreign Animal Diseases – FMD, CSF, ASF, others
 7. Porcine reproductive and respiratory syndrome (PRRS)
 8. Porcine epidemic diarrhea virus (PEDV)

- B. With the ongoing health challenges facing the swine industry, we must manage the areas we know we can control. The way we handle and transport livestock is one of the areas where we must and we can consistently execute biosecurity standards to the highest level.

PROPER CLEANING AND DISINFECTION INVOLVES

- A. Cleaning,
- B. Washing (pre-soaking, scrubbing, rinsing, and drying),
- C. Disinfecting, and
- D. Downtime

STEPS TO FOLLOW FOR PROPER TRAILER CLEANING

- A. All vehicles and items used in the transportation of pigs must be thoroughly cleaned and disinfected.
- B. To help mitigate the possibility of transmission, the trailer should be cleaned in an area that is removed from current resident swine.
 - 1. The trailer(s) should be initially cleaned at an off-sight trailer/truck wash facility, and then disinfected (as described below) once back on sight the NDSU.
 - 2. After initial cleaning outside of the New Deal facility, the trailer must be washed and disinfected at a designated area that allows access to water as well as electricity for power washing.

NOTE: Many of the chemicals used for cleaning and disinfection can be corrosive and will cause chemical burns if contact with the skin occurs. This applies to BOTH humans and pigs. Caution must be taken to avoid contact with skin.

C. Exterior Cleaning

- 1. It is imperative that appropriate PPE such as rubber gloves, rubber boots and eye protection be worn.
- 2. Use shovels, manure forks, brushes, low-pressure sprayers, or mechanical scrapers to remove all visible organic material from the exterior of the vehicle.
- 3. Remove any deposits of mud and straw from the wheels, wheel wells, tires, mudguards, and exposed chassis of the trailer.
- 4. Use detergent and warm water (90°F–130°F) to wash the trailer and any removed items.
- 5. Rinse the trailer with hot water. If that is not possible, allow the vehicle to sit for 5–10 minutes so that the residual rinse water can drip off the trailer.
- 6. After cleaning the trailer, use a disinfectant per label directions to kill viruses (e.g. Synergize and Virkon S are labeled as PEDV disinfectants).
- 7. Allow ample wet disinfectant contact time, according to label directions, with the trailer. Rinse off the disinfectant and allow time for the trailer to dry thoroughly.

D. Interior Cleaning

Note: removal of bedding and initial washing and cleaning must be done outside of the New Deal facility.

- 1. It is imperative that appropriate PPE such as rubber gloves, rubber boots and eye protection be worn.
- 2. Remove all non-fixed items from the trailer to be cleaned and disinfected.
- 3. Use shovels, manure forks, brushes, low-pressure sprayers, or mechanical scrapers to remove all visible organic material.
- 4. Use detergent and warm water (90°F–130°F) to wash all interior surfaces of the trailer
- 5. Wash the floor mats and all other trailer components that have had contact with pigs with a detergent cleaner.
- 6. Use a leaf blower to dry pooling water and to get into hard-to-reach areas for drying

7. After cleaning the trailer, use a disinfectant per label directions to kill viruses (e.g. Synergize and Virkon S are labeled as PEDV disinfectants).
8. Allow ample wet disinfectant contact time, according to label directions, with the trailer. Rinse off the disinfectant and allow the trailer to dry thoroughly.

NOTE: Washing, cleaning, and disinfecting the exterior and interior can be done at a truck washing facility.

E. Downtime

1. Heat and lack of moisture are very effective at killing most viruses, therefore downtime will enhance the bio-security associated with chemical disinfection.
2. Allow multiple days (minimum of 48 hours) of downtime prior to any animals being transported in chemically disinfected trailers.

F. Cost

1. All costs incurred (cleaning time, disinfectant, etc.) as a result of bio-security trailer cleaning will be charged to the investigator/faculty/staff department after trailer use.