Objective:

Outline and describe Texas Tech University Institutional Animal Care and Use Committee’s position on the Bio-Security 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 methods and products to maintain proper Bio-Security.

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. In an effort to keep newly emerging commercial swine threats to a minimum at the NDSU, it is of paramount importance that strict bio-security measures be kept, to contain and mitigate any threat of disease outbreaks.

Specific Bio-security measures have been outlined and supported with regards to the NDSU as a whole in other TTU Standard Operating Procedures (SOP). This SOP specifically addresses the vehicles and equipment associated with the transportation of animals into and out of the NDSU.

Background and Rationale:

Historically, livestock transport has often been incriminated in the spread of infectious diseases such as:

- Porcine circovirus
- Transmissible Gastroenteritis Virus (TGE)
- Salmonella and E. coli
- Mycoplasma
- Streptococcus suis and Haemophilus parasuis
- Foreign Animal Diseases – FMD, CSF, ASF, others
- PRRS virus
- Now PEDV

With the ongoing health challenges being faced in the swine industry, it is imperative that we manage the areas we know we can control. The manner in which we handle and transport livestock is one of the areas where we must consistently execute biosecurity standards to the highest level.
Proper Cleaning and Disinfection involves:

- cleaning,
- washing (pre-soaking, scrubbing, rinsing, and drying),
- disinfecting, and
- downtime

Steps to Follow for Proper Trailer Cleaning:

Cleaning of all transport vehicles and items used to on and off load pigs must be fully cleaned and disinfected to ensure that diseases are kept off of the farm.

To help mitigate the possibility of transmission, the trailer should be cleaned in an area removed from current resident swine.

- If possible 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.
- If the trailer(s) must be cleaned at the New Deal Farm, an area near the Dairy Unit will be designated, that allows for access to water and electricity for the power washer.

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.

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

2. Interior Cleaning
   a) It is essential that appropriate PPE such as rubber gloves, rubber boots and eye protection be worn.
   b) Remove all non-fixed items from the trailer to be cleaned and disinfected.
c) Use shovels, manure forks, brushes, low-pressure sprayers, or mechanical scrapers to remove all visible organic material.
d) Use detergent and warm water (90°F–130°F) to wash all interior surfaces of the trailer
e) Wash the floor mats and all other trailer components that have had contact with pigs with a detergent cleaner.
f) Use a leaf blower to dry pooling water and to get into hard to reach areas for drying
g) After cleaning the trailer, use a disinfectant according to the label directions to kill viruses (Synergize and Virkon S are labeled as PEDV disinfectants).
h) Allow ample wet disinfectant contact time according to label directions with the trailer, rinse, and allow too dry thoroughly.

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

4. Cost
   a) 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