PURPOSE
The objective of this Swine Surveillance Health Program is to provide the highest quality of animals housed in TTU New Deal Research Farm Swine Facilities. These programs are necessary to prevent the introduction and transmission of pathogenic organisms, isolate & contain potential sources of infection pending confirmation of test results and contain, treat and eradicate outbreaks, to ensure that the swine herd has the highest standards of health for teaching and research.

QUARANTINE
A. All pigs from an outside source must be quarantined prior to entering the TTU herd including:
   1. Replacement breed stock (gilt and boars)
   2. Pigs brought in specifically for research projects
B. Pigs will be housed in the outside dirt pens behind the TTU dairy barn or in a location approved by the veterinary staff prior to receiving the pigs.
C. Quarantine must last a minimum of 30 days
D. Specific personnel must be designated to observe and feed/water quarantine pigs and must not enter TTU swine facilities or the feed mill
   1. If separate personnel cannot be designated as the case with the swine staff then:
      a. Special attire and equipment must be designated for the quarantine area
      b. Quarantine pigs should be taken care of at the end of the day to avoid re-entering the herd
E. Oral fluids will be collected upon arrival, and at the time of blood testing, via “Rope Testing”.
   1. Rope testing is accomplished as follows:
      a) Suspend a length of cotton rope in a location accessible to the pigs. Ropes should be placed in a clean area of the pen and not in close proximity to water or feed. Cotton rope is recommended because it is highly absorbent. Use 1/2" (1.3 cm) rope for nursery pigs; 5/8" (1.6 cm) rope for grow-finish pigs.
      b) Hang rope shoulder high to the pigs (hang the rope, then cut to length). The pigs deposit oral fluids as they chew the rope. In active pens, 20-30 minutes is sufficient sampling time.
      c) Extract oral fluids from the rope. Insert the bottom (wet) end of the rope into a clean plastic bag or single-use plastic boot. Squeeze the rope so that the fluid accumulates in one corner.
      d) Cut a corner of the plastic and drain the contents into a tube (Falcon 2054 or equivalent). A 4 ml sample is ideal for testing.
clean, no further processing is necessary. If samples contain particulates, centrifuge for 10 minutes and then pour into a clean tube.

Blood Samples will be collected and tested negative for Brucellosis, Pseudorabies, PRRS, and PEDv at the expense of the investigator.

F. At the conclusion of the quarantine period, pigs will be vaccinated with appropriate vaccines and dewormed.

BLOOD SAMPLING

A. Gather supplies needed.
   1. Monovettes to sample 25% of the adult herd.
   2. Same number of 4” x 16 gauge needles
   3. 10mL vacutainer blood tubes to sample piglets equal to 5% of adult herd
   4. Same number of 1.5” x 20 gauge vacutainer needles
   5. Vacutainer holder
   6. Sharps container
   7. Lab markers
   8. Cooler with ice packs and tube rack
   9. Cup for holding Monovette lids

B. Change into appropriate clothing (as described in the Policy 01 Biosecurity New Deal Swine Unit).
   1. Cover-alls
   2. Boots
   3. Ear protection
   4. Exam gloves if sampling

C. Restraining the Swine
   1. Adult swine will be caught with a pig snare behind the tusks of the upper jaw and held firmly.
   2. Piglets will be caught by hand and placed dorsally into a V-trough. The legs will be held still by one or two people.

D. Taking the blood sample
   1. Blood samples from adult swine will be taken with a 10mL Monovette syringe and a 4” long 16 gauge needle.
      a) Insert the needle into the pig's right jugular vein, aiming toward the pig's left shoulder blade.
      b) Withdraw the syringe plunger during insertion to create a vacuum in the syringe.
      c) As soon as blood is seen in the syringe, stop advancing and take the blood sample.
   2. Blood samples from piglets can be taken with a 10mL vacutainer blood tube and 20 gauge blood collection needle.
a) Have a blood collection needle set in a holder.
b) Have the blood tube ready in the holder but not depressed onto the needle yet.
c) With the piglet lying on its back in the V-Trough, insert the needle into the piglet’s right jugular vein. Depress the blood tube onto the needle.
d) Continue to insert the needle until blood is seen in the tube. Allow the tube to fill. Blood samples can also be taken with a 3-10 cc syringe and 20 gauge needle.

E. The blood sample
1. Use the lab marker to identify the blood tube or syringe with the pig’s ID #.
2. Place the sample in the rack in the cooler. Transport back to campus.

F. Training
1. A trainee may attempt venipuncture 3 times per animal.
2. If 3 unsuccessful attempts have been made, the trainee must relinquish their turn and allow a more experienced individual to collect blood from that animal.
3. If blood is not required from the animal, then it will be returned to its pen.

BIANNUAL TESTING
A. Twice a year (April and October), rope testing will occur in both the nursery and finishing barns in random pens. The number of pens tested will depend on animal census, but at least one pen per wing of finishing and nursery

1. A length of cotton rope in a location accessible to the pigs. Ropes should be placed in a clean area of the pen and not in close proximity to water or feed. Cotton rope is recommended because it is highly absorbent. Use 1/2" (1.3 cm) rope for nursery pigs; 5/8" (1.6 cm) rope for grow-finish pigs.
2. The pigs deposit oral fluids as they chew the rope. In active pens, 20-30 minutes is sufficient sampling time.
3. Insert the bottom (wet) end of the rope into a clean plastic bag or single-use plastic boot. Squeeze the rope so that the fluid accumulates in one corner.
4. Cut a corner of the plastic and drain the contents into a tube. A 4 ml sample is ideal for testing. If samples are clean, no further processing is necessary. If samples contain particulates, centrifuge for 10 minutes and then pour into a clean tube.
5. Freeze samples promptly to optimize quality. Oral fluid samples for same day submission may be chilled and submitted on wet ice.

B. Follow the oral fluids collection methods as described above.

C. Lab Procedure
1. Gather Supplies Needed
2. Cotton rope
3. Plastic bag Vial

D. Filling out the Report
1. Gather Supplies Needed
   a) Freezer Box
b) Complete Iowa State University Diagnostics Laboratory form
2. Fill out veterinary information and account number (see an old form as an example)
3. Fill out the test record using one line per sample.
4. Mark the sample tube (Cryovial) with the corresponding sample number.
5. Circle the sample number on the tube (Cryovial). There will be two numbers on each tube, the pig ID number and the sample number.

G. Sending The samples
1. Gather Supplies
   a) Freezer box containing serum samples.
   b) Completed Swine Test Record
   c) Completed Lab form
   d) Paper towels
   e) Plastic baggies
   f) complete TTU mail stop form
   g) Large Manila Envelope
   i) Tape
   j) Wrap freezer box with paper towels, tape. Place into plastic bag, seal.
   k) Wrap again with paper towels, tape. Place into another plastic bag.
   l) Place into manila envelope and then into Lab Pack envelope
   m) Place paperwork into a manila envelope and then into Lab Pack envelope.
   n) Seal Lab Pack

H. Data entry
1. Update the Swine Records with the pig ID numbers list you made while separating the serum.