



Title: Swine Disease Surveillance and Monitoring

SOP Number: 014

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 (gilts and boars)
 2. Pigs brought in specifically for research projects
- B. Pigs will be housed 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. If samples are 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.
- B. Change into appropriate clothing (as described in the Policy 01 Biosecurity New Deal Swine Unit).
- 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 3-4" long 18-16 gauge needle.
 - a) Insert the needle into the pig's right jugular vein, aiming toward the pigs 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 a 1.5" 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.
 - i. Blood Samples can also be taken with a 3-10cc syringe and a 20 gauge needle.
 - e) Use a marker to identify the blood tube or syringes with the pigs' ID #
 - f) Place the sample in the rack in the cooler. Transport back to campus for processing.
- E. 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.

DISEASE SURVEILLANCE TESTING

- A. Four times a year (as prescribed by the TAHC schedule), 25 % of the breeding herd will have a blood sample drawn (as described above) and submitted to a certified testing

lab, with the results reported to TAHC for the maintenance of Brucellosis and Pseudorabies free status.

- B. Twice a year, rope testing will occur in the gestation, 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 “Rope Testing”
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.