Recommendations for Swine with Potential Vesicular Disease

1. Purpose and Background

This document provides guidance on procedures and responsibilities to clarify handling of herds that might have Seneca Valley virus (SVV) while assuring foreign animal disease investigations occur per agency guidelines. Reporting of herds with vesicular lesions must continue to ensure rapid detection of catastrophic foreign animal vesicular diseases (FAD) such as foot-and-mouth disease (FMD), safeguard American agriculture, and protect the health, quality, public confidence, and marketability of our nation’s livestock and products.

Senecavirus A, commonly known as Seneca Valley virus (SVV), belongs to the same family as FMD (Picornaviridae). SVV has been identified in U.S. swine since the 1980s and is occasionally implicated in sporadic outbreaks of idiopathic vesicular disease of swine. Recently, SVV has been frequently associated with clinical syndromes in swine that include vesicular lesions. The exact cause of lesions and disease is still being investigated. In some cases, swine herds approach 80 percent morbidity, with clinical signs of snout and coronary band vesicular lesions. Often animals are reported to be afebrile and are bright, alert, and responsive. Mortality in preweaned pigs has also been reported.

Any swine having vesicular lesions on their snouts, around their coronary bands, or in both areas are suspects for FADs such as FMD until determined otherwise by Veterinary Services (VS) diagnostic testing. Vesicular lesions in swine are caused by several additional viral pathogens, including vesicular exanthema of swine, swine vesicular disease, and vesicular stomatitis virus, and cannot be differentiated from non-foreign animal disease causes without diagnostic testing. Accredited veterinarians must immediately report all diagnosed or suspected cases of animal diseases not known to exist in the United States to State or Federal animal health officials as per title 9, Code of Federal Regulations (9 CFR) 161.4(f) and (g). They must also take precautions to prevent the spread of communicable diseases.

This guidance document represents the Agency’s position on this topic. The information it contains may be made available to the public. While this document provides guidance for users outside VS, VS employees may not deviate from the directions provided herein without appropriate justification and supervisory concurrence.

2. Document Status

A. Valid through October, 19, 2018.

B. This is a new document.
3. Reason for Reissuance

Not applicable.

4. Authority and References

A. Authority (Code of Federal Regulations (CFR)):
   • 7 CFR 371.4
   • 9 CFR part 53
   • 9 CFR part 161

B. References:
   • VSG 12000.1, Investigation of Potential FADs and EDIs
   • VSG 12001.2, Foreign Animal Disease Diagnostician Certification Requirements
   • Food Safety Inspection Service Directive 6000.1, Responsibilities Related to Foreign Animal Diseases and Reportable Conditions
   • Foreign Animal Disease Investigation Manual

5. Audience

VS employees, other Federal and State agencies, and members of the public.

6. Guidance

A. Reporting Responsibilities of Accredited Veterinarians

   Accredited veterinarians are to immediately report all cases of vesicular disease to Federal or State animal health officials. The reporting of all vesicular diseases is necessary to ensure FMD is ruled out. (9 CFR 161.2.)

B. Performing a FAD Investigation in Swine When Vesicular Lesions are Identified Without any Suspicion of SVV

   1) Foreign animal disease investigations are to be performed in accordance to VS Guidance documents 12000.1 and 12001.2.

   2) VS Assistant Directors (AD) and State animal health officials will assign foreign animal disease diagnosticians (FADD) to each case of vesicular disease identified in pigs. FADDs will use professional judgment to evaluate each case for submission to FADDL and cooperating NAHLN laboratories.
C. FADD Investigations for Swine Suspected of Being Part of the Fiscal Year 2015-2016 SVV Outbreak

1) NAHLN laboratories with FMD testing capability (see attachment A) should be used to conduct rapid FMD diagnostic testing.

2) A duplicate set of samples must concurrently be collected and sent to FADDL immediately per VS Guidance document 12001.2. The AD or State animal health official should determine the priority of these samples, but if the case is strongly suspected to be part of the FY 2015-2016 SVV outbreak and movement decisions will be made based on a negative NAHLN FMD PCR, the priority should be no higher than a Priority 2.

3) The AD or State animal health official will assign a priority per VS Guidance Document 12001.2 and notify FADDL via FAD.Submissions@aphis.usda.gov.

4) The AD and State animal health official may use the clinical presentation and NAHLN diagnostic test result to make initial decisions regarding disposition of the animals. A positive test result for FMD from the NAHLN laboratory will immediately elevate the investigation priority previously established. FADDL must confirm all NAHLN lab results for any vesicular condition.

5) NAHLN laboratories will immediately call State and VS officials regarding positive FMD screening tests. Negative results will be reported per routine electronic messaging methods or as requested by the State animal health official or AD.

D. Diagnostic Testing at NAHLN Laboratories When Vesicular Samples are Received That Are Not Associated with a FAD Investigation

1) Laboratories are to contact the State animal health official or AD overseeing the originating State when samples from vesicular lesions are submitted without a FAD investigation Referral Control Number (RCN) per VS Guidance 12001.2. No sample will be tested for FMD at NAHLN laboratories without a FAD RCN number assigned by State or Federal animal health officials.

2) The AD or State animal health official will initiate a FAD case by assigning a FAD RCN number.

3) The AD or State animal health official will assign a priority per VS Guidance Document 12001.2 and notify FADDL via FAD.Submissions@aphis.usda.gov.

4) After the NAHLN laboratory has received the FAD RCN number, the FMD PCR can be conducted as well as other appropriate non-FAD testing, including SVV PCR. NAHLN laboratories should examine the sample before testing to determine if sample size is adequate. If the sample lacks adequate volume for follow up testing at FADDL, the entire sample must immediately be sent to FADDL for testing.
5) The entire remaining sample should then be sent to FADDL for confirmatory testing.

6) In cases where a practitioner submits samples, the AD or State animal health official will discuss clinical presentation and FAD submission guidelines with the submitting veterinarian. Since the case arrived without prior reporting of vesicular disease by the accredited veterinarian, a FADD may be assigned to the case where normal FAD sample collection procedures will be followed.

E. Collection of Samples at Swine Production Systems (as defined in 9 CFR part 71)

1) For cases submitted by practitioners to NAHLN laboratories without indication of vesicular lesions, or from a production system already confirmed to have SVV, the NAHLN lab may perform testing for any non-program disease or non-FAD as requested by the submitter, including SVV, at the submitter’s cost.

2) In situation where the production system has already been confirmed to have SVV, accredited veterinarians may be used for FAD investigations only when the AD and State animal health officials give the accredited veterinarians submission instructions and the following conditions are met:

   a. A FADD is not available for immediate case investigations; or

   b. There is an epidemiological link to swine under the same management to a previous FAD case where swine were identified as negative for FADs at FADDL and swine are presenting with vesicular lesions; and

   c. The accredited veterinarian agrees to follow all additional directions of the AD or State animal health official; and

   d. Accredited veterinarians agree to send samples to FADDL and the NAHLN per AD instructions.

3) New FAD investigations should be initiated and samples collected and submitted if the following occur:

   a. Any premises has a significant increase in morbidity with the following clinical signs:

      1. Fever

      2. Lameness

      3. Oral, snout, and coronary band vesicular or vesicular-associated lesions

      4. Animals that appear depressed or generally ill, or that show loss of appetite
b. ADs and State animal health officials should also consider the following:

1. An introduction of new animals that triggers increased clinical signs.

2. Clinical signs that meet the criteria in newly introduced pigs that have not been previously tested.

3. Clinical signs developing after a recent visitor.

4) NAHLN laboratories can test for FMD if the State animal health official and the AD approve and a FAD RCN number is issued.

5) The AD or State animal health official will assign a priority per VS Guidance Document 12001.2 and notify FADDL via FAD.Submissions@aphis.usda.gov.

F. Producer Information, Guidance, and Responsibilities when Vesicular Lesions are Present on Swine

Producers should:

1) Call their veterinarian anytime vesicular lesions are identified in previously unaffected pigs; even if the herd is known to be positive for SVV.

2) Not move swine until acute/active vesicular lesions have healed and the FAD investigation declared negative.

3) Ensure that swine moving in interstate commerce meet all animal health requirements as set forth in 9 CFR 71.19.

4) Follow all State requirements for swine moving interstate with healing lesions for other than slaughter purposes. If no state specific guidelines are available:

   a. Swine moving within 14 days of receiving negative FAD test results for vesicular lesions can move without restrictions if the receiving State animal health official and AD are notified of the movement. The notification ensures resources are not expended on performing another FAD on a case already investigated.

   b. Epidemiologically-linked swine that still have vesicular lesions and need to move interstate 14 days or more after the initial FAD investigation test result for vesicular lesions can move without restriction if the producer or consignor:

      1. Calls the AD and or State animal health official to discuss movement

      2. Resubmits samples to a qualifying NAHLN lab for FAD testing per the AD or State animal health official recommendation.
3. Reference the original FAD RCN for linking the case and put prior results on the submission form.

c. Movement of healed and recovered swine is not restricted if all animal health requirements are met, there has been no recrudescence of vesicular lesions on the premises, and no change in morbidity or mortality that is suggestive of a FAD. (See E.3.a).

5) In all instances, strict biosecurity should be followed to prevent spread between sites and production systems.

6) If sending animals with vesicular lesions to slaughter, the accredited veterinarian (as a fee for service with their client) needs to communicate the following with the slaughter establishment and Food Safety and Inspection Service (FSIS) inspection personnel to avoid disrupting the flow of production at slaughter:

   a. Detailed information on when the animals are expected to arrive at the slaughter establishment.

   b. Laboratory test results indicating the premises is negative for FADs within the last 14 days before slaughter.

   c. If the animals have lesions that are still healing and it has been greater than 14 days since the FAD investigation, contact the AD or SAHO for instructions.

G. Management of Swine with Vesicular Lesions Found in Slaughter Channels

1) FSIS requires immediate notification to the AD or State animal health official when any livestock is found to have vesicular conditions at ante mortem inspection, per 9 CFR 310.15.

2) FSIS Directive 6000.1 provides direction to State animal health officials and ADs that, once reported to the State animal health official, AD, or both, the case will be handled underAPHIS or State instructions.

3) If it is determined that a FADD will be assigned to the plant, the AD will follow directions as provided in the FAD Investigation Manual section 8-5 for “Slaughter Establishment FAD investigation Process.”

4) The State animal health official or AD will need to communicate to FSIS how to further process affected animals eligible for slaughter at the official establishment. Establishment operations and capabilities to hold product may need to be assessed. Subject to FADD observations, containment options could include:
a. Quarantining and holding the animals until NAHLN or FADDL receives results, at the AD’s or State animal health official’s discretion. No quarantined animals can be slaughtered until the quarantine is removed as set forth in 9 CFR 309.15(b)).

b. Allowing eligible animals to be slaughtered after collecting samples.

   1. All animals would need to pass FSIS antemortem inspection procedures (i.e., no swine with acute systemic disease, typically indicated by active vesicular lesions and fever or other systemic clinical signs per 9 CFR 309.15(b), could pass)

   2. All carcasses and offal, including blood, will need to be held in a manner to ensure proper disposal pending test results. Onsite rendering is acceptable.

c. Allow slaughter of animals only at the end of the slaughter day.

   1. All animals would need to be able to pass normal ante mortem inspection procedures.

   2. All carcass and offal, including blood, will need held in a manner to ensure proper disposal pending test results. Onsite rendering is acceptable.

d. Allow routine slaughter without restrictions and without testing based on FADD findings and AD or State animal health official recommendations.

e. If animals have lesions, they should not leave a plant for another plant until testing has been completed by a NAHLN laboratory. FADDL will confirm the NAHLN results.

7. Inquiries

Questions regarding this guidance document should be directed to Dr. Troy Bigelow at (515) 284-4121 or the AD overseeing the State in which you are located.