United States Animal Health Association
2019 Resolution
123rd Annual Meeting
Oct. 24-30, 2019
Providence, RI

RESOLUTION NUMBER: 19 APPROVED

SUBJECT MATTER: Efficient Diagnostic Sample Validation and Approval for Foreign Animal Diseases of Swine

BACKGROUND INFORMATION:

Swine oral fluids have been used extensively for disease surveillance in swine populations[1] and pen-based oral fluid samples improves detection over single-animal testing[2]. Since 2011, the Pork Checkoff has funded 9 research studies related to assay development, diagnostic performance, and validation of swine oral fluids for foreign animal diseases. The United States Department of Agriculture (USDA), Animal and Plant Health Inspection Services, Veterinary Services has completed a series of swine oral fluid validation research projects and is currently working on a study looking at pen sensitivity. The Swine Health Information Center, through a USDA Foreign Agricultural Service grant, will fund research into field validation of swine oral fluids for African swine fever (ASF). Research into other aggregate samples types have been funded by the Pork Checkoff to validate meat juice for the detection of antigen and antibody for ASF. Swine processing fluids are gathering more interest as an aggregate sample collected during tail docking and castration to monitor for endemic diseases, and it is anticipated that research will be funded to evaluate this sample type for foreign animal disease (FAD) detection. It is important as the pork industry evolves and adopts aggregate sampling that these sample types are validated and approved by USDA for FAD surveillance prior to and after an FAD outbreak.

1. Rotolo, M., Main, R., & Zimmerman, J. (2018). Herd-level infectious disease surveillance of livestock populations using aggregate samples. *Animal Health Research Reviews, 19*(1), 53-64. doi:10.1017/S1466252318000038
2. Olsen, C., Wang, C., Christopher-Hennings, J., Doolittle, K., Harmon, K. M., Abate, S., Zimmerman, J. (2013). Probability of detecting Porcine reproductive and respiratory syndrome virus infection using pen-based swine oral fluid specimens as a function of within-pen prevalence. Journal of Veterinary Diagnostic Investigation, 25(3), 328–335. https://doi.org/10.1177/1040638713481471

RESOLUTION:

The United States Animal Health Association (USAHA) urges the United States Department of Agriculture (USDA), Animal and Plant Health Inspection Service (APHIS), Veterinary Services (VS) to work with United States pork industry to validate and approve

swine oral fluids, swine processing fluids, and meat juice for detection of antigen and antibody for classical swine fever, African swine fever and foot and mouth disease.

INTERIM RESPONSE:

USDA, APHIS, VS recognizes the concerns of USAHA and appreciates the opportunity to respond. VS recognizes that the swine industry's highest priorities is the validation of diagnostic assays for the detection of ASF and foot-and-mouth disease (FMD) in swine oral fluids. Large scale experimental work at Plum Island Animal Disease Center and the Canadian Food Inspection Agency (CFIA) is underway to answer two pivotal questions to evaluate oral fluids as a sample type:

1) How well does OF reflect overall infection status of the pen?
2) Can we detect ASF in OF before onset of clinical signs?

This work follows smaller scale comparison studies using experimental samples that APHIS VS and CFIA conducted in 2019. As part of this evaluation, APHIS is partnering with industry and CFIA to evaluate the utility of oral fluid samples in endemic countries, including Vietnam. The oral fluids study was extended to the end of February 2020 with results expected by late March 2020.

FINAL RESPONSE:

USDA, APHIS, VS recognizes the concerns of USAHA and appreciates the opportunity to respond. VS recognizes that the swine industry's highest priority is the validation of diagnostic assays for the detection of ASF and foot-and-mouth disease in swine oral fluids. APHIS is in the process of evaluating oral fluids as described in the response to resolution number 4, 9, 15, and 16 combined: ASF/Classical Swine Fever Surveillance Program and Tissues for Official ASF Testing in National Animal Health Laboratory Network Laboratories. Evaluation of further sample types such as processing fluids and meat juice are under consideration. Results obtained through evaluation of oral fluids will be used to guide plans for evaluation of these other sample types.