

Final Report to Swine Health Information Management Center (SHIC) to supplement the Summary Report submitted SHIC on September 11, 2015.

Project #: 15-185 SHIC

Project Name: Expedited look into the prevalence of Senecavirus A in US Swine.

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Objective: Expeditiously obtain some insight to better understanding the prevalence of Senecavirus A (Seneca Valley Virus) currently (8/24/2015 – 9/01/2015) circulating in US swine herds that *are not known* to be exhibiting clinical signs of acute lameness accompanied by the presence of vesicular lesions on the snout, coronary band, and/or hoof.

The impetus for this expedited study was in response to an apparent reemergence of clinically relevant Senecavirus A in US swine in July-August 2015.

Materials and Methods: Senecavirus A PCR testing was completed on a total of 441 Cases (2,033 Oral Fluid Samples) from 25 different states and a few isolated submissions from Canada and Mexico received at the ISU VDL and UMN VDL for routine diagnostic testing between 8/24/15 to 9/01/2015 that were not otherwise known to be exhibiting clinical signs of acute lameness accompanied by the presence of vesicular lesions on the snout, coronary band, and/or hoof.

Results: See **Table 1** below. (i.e., Tabular summary the aforementioned retrospective Senecavirus A PCR testing of oral fluids at the Iowa State University and University of Minnesota Veterinary Diagnostic Laboratories).

Summary: A total of 5 case submissions tested from 5 different states contained oral fluid samples testing Senecavirus A PCR positive. (i.e., 1.1 % of these 441 cases and 1.2% of these 2,033 oral fluid samples tested Senecavirus A PCR positive.) Subsequent to learning the results of this retrospective testing, further on-site investigation by the attending veterinarian discovered that 1 of the 5 cases testing Senecavirus A PCR positive in this retrospective testing was later found to have clinical signs of vesicular disease (lesions) present.

While Senecavirus A (Seneca Valley Virus) has long been known to be present in US swine, these data suggest the presence of Senecavirus A was not a common finding in oral fluid samples of US swine (i.e., in US swine *not otherwise known* to have clinical history of acute lameness and/or presence of vesicular lesions) at the time (8/24/2015 – 9/01/15) these samples were submitted to the Iowa State University and University of Minnesota Veterinary Diagnostic Laboratories.

Table 1. Senecavirus A PCR test results obtained by retrospectively testing swine oral fluid samples (441 Cases, 2,033 Samples, from 25 different states and a few isolated submissions from Canada and Mexico) received at the ISU VDL and UMN VDL for routine diagnostic testing between 8/24/15 to 9/01/2015 *that are not otherwise known* to be exhibiting clinical signs of acute lameness accompanied by the presence of vesicular lesions on the snout, coronary band, and/or hoof.

State	# of Positive Cases	# of Suspect Cases	Total # of Cases Tested	# of Positive Samples	# of Suspect Samples	Total # of Samples Tested
AR	1	0	2	18	0	20
AZ	0	0	1	0	0	5
CO	0	0	11	0	0	39
GA	0	0	2	0	0	8
IA	1	0	73	1	0	206
IL	1	0	30	2	0	126
IN	1	0	27	2	0	155
KS	0	0	3	0	0	24
KY	0	0	6	0	0	31
MI	0	0	10	0	0	73
MN	1	1	69	2	1	202
MO	0	0	18	0	0	128
NC	0	0	21	0	0	118
NE	0	0	65	0	0	266
OH	0	0	35	0	0	138
OK	0	0	13	0	0	81
PA	0	0	6	0	0	16
SC	0	0	3	0	0	16
SD	0	0	9	0	0	39
TN	0	0	1	0	0	2
TX	0	0	12	0	0	184
UT	0	0	8	0	0	32
VA	0	0	8	0	0	58
WI	0	0	3	0	0	5
WY	0	0	1	0	0	15
Canada	0	0	2	0	0	19
Mexico	0	0	2	0	0	27
Totals	5	1	441	25	1	2033