

PROGRAM ACTIVITY REPORT (PAR)



SIV IN FERAL SWINE

The NWDP is collaborating with Veterinary Services to conduct surveillance for swine influenza virus in feral swine. Swine play a unique role in the epidemiology of influenza A viruses because they have similar cellular receptors to those of birds and humans, meaning that they can become infected with multiple subtypes of influenza A viruses. If different influenza A subtypes are present within an individual, there is an opportunity for genetic reassortment to occur between subtypes.



Swine influenza virus has received increasing attention since the emergence in March 2009 of the novel H1N1 subtype (an influenza subtype that affects humans, domestic swine and several other

species). H1N1 was the dominant influenza subtype in U.S. domestic swine populations for many years following its discovery in the early 1930s. However, a new subtype (H3N2) created by a triple reassortment of avian, human, and porcine genes was discovered in 1998 in commercial swine populations. This is now the dominant subtype across the country. The 2009 pandemic novel H1N1 is similar to H3N2 in that it contains an assortment of genes from humans, birds, and pigs. This subtype also

contains swine genes of Eurasian origin that had not previously been detected in North American swine.

Since testing began in November 2010, the NWDP has sampled and submitted 1403 nasal swabs and 1727 serum samples. NAHLN Laboratories have tested 1367 of the nasal swabs and 11 tested positive by PCR. Of the 1741 serum samples, 159 (9.1%) were positive for Type A influenza by the IDEXX b-ELISA test.

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Samples Collected		
State	Swabs	Serum
AL	69	59
AR	77	65
AZ	6	14
CA	59	52
FL	142	221
GA	91	114
HI	101	85
IA	0	1
IL	8	9
IN	0	2
KS	37	63
KY	13	32
LA	29	50
MI	10	2
MO	69	74
MS	74	131
NC	101	69
NH	3	1
NJ	2	2
NM	5	32
NV	0	9
OH	1	1
OK	233	228
OR	25	47
PA	1	1
SC	7	48
TN	0	28
TX	238	284
VA	2	13
WI	0	4
Total	1403	1741

The original artwork on this page was created by the National Wildlife Disease Program's Erika Kampe and Sarah Goff