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# 2020 Vesicular Stomatitis Virus (VSV) Situation Report – April 23, 2020

*Information current as of 2:00 pm MDT, 04/23/2020*

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On April 23, 2020, the National Veterinary Services Laboratories (NVSL) in Ames, Iowa, confirmed a finding of vesicular stomatitis virus (VSV) infection (New Jersey serotype) on an equine premises in Starr County, Texas. Two (2) horses on the index premises have met the case definition of infection with compatible clinical signs and VSV-positive complement fixation test (CFT) titers at a dilution of 1:40 or greater; one of the horses is also reverse transcription-polymerase chain reaction (RT-PCR) positive for VSV (New Jersey serotype). **This is the 2020 VSV index case for Texas.** A second nearby equine premises in Starr County, Texas subsequently met confirmed VSV case definition with compatible clinical signs and RT-PCR-positive results for VSV (New Jersey serotype) in one horse.

VSV-New Jersey (VSV-NJ) serotype was last identified in the U.S. in 2015 and other cases of VSV so far in 2020 have been VSV-Indiana (VSV-IN) serotype. The last mixed outbreak involving both VSV-NJ and VSV-IN in the U.S. occurred in 1997-1998.

**Index Premises and Subsequent Confirmed Positive Premises (Texas):** Both premises are small properties located in Starr County, Texas. The index premises has a total of 4 horses and 5 cattle present with 2 of the horses showing clinical signs of VSV (lip lesions) which were first noticed around April 19th. There are no clinical signs of VSV in the cattle and no animal movements have occurred. The second infected premises has 1 horse and 3 cattle present with the horse showing clinical signs of VSV (lip lesions) which were first seen on April 21st. There are no clinical signs of VSV in the cattle and no animal movements have occurred.

Known competent vectors for transmission of VSV include black flies, sand flies, and biting midges (*Culicoides spp.*). The epidemiological investigations on the VSV-positive premises indicate that incursion of VSV-infected insect vectors is the likely source of infection on these premises. Biosecurity measures and vector mitigation have been instituted to reduce the within-herd spread of the virus. The animals are being monitored and the premises will remain under state quarantine until 14 days from the onset of lesions in the last affected animal on the premises.

## Classification of Cases

Premises that have laboratory diagnostic confirmation of VSV are categorized as confirmed positive premises. Once a county is confirmed as VSV-positive, new equine premises presenting with clinical signs of VSV in that county are not required to be tested for confirmation of the disease, but the premises will be quarantined and classified as a suspect premises.

## Quarantines

Confirmed positive and suspect premises are quarantined for at least 14 days from the onset of lesions in the last affected animal on the premises.

**Summary of the Outbreak (Updated information in blue)**

The 2020 VSV outbreak began on April 13, 2020, when the National Veterinary Services Laboratories (NVSL) in Ames, Iowa confirmed the first VSV-positive premises in Dona Ana County, New Mexico. Arizona and Texas subsequently broke with VSV cases which were confirmed by NVSL on April 22, 2020 (Cochise County, Arizona) and April 23, 2020 (Starr County, Texas).

Since the start of the outbreak, **10 VSV-affected premises have been identified (10 confirmed positive, 0 suspect)**. All ten (10) of these premises have only equine species clinically affected and no clinically affected cattle have been identified at this time. New Mexico has identified 7 affected premises (7 confirmed positive, 0 suspect) in 3 counties (Dona Ana, Eddy, and Sierra Counties). Arizona has identified 1 affected premises (1 confirmed positive, 0 suspect) in 1 county (Cochise County). Texas has identified 2 affected premises (2 confirmed positive, 0 suspect) in 1 county (Starr County).

**Summary of VSV-Affected Premises**

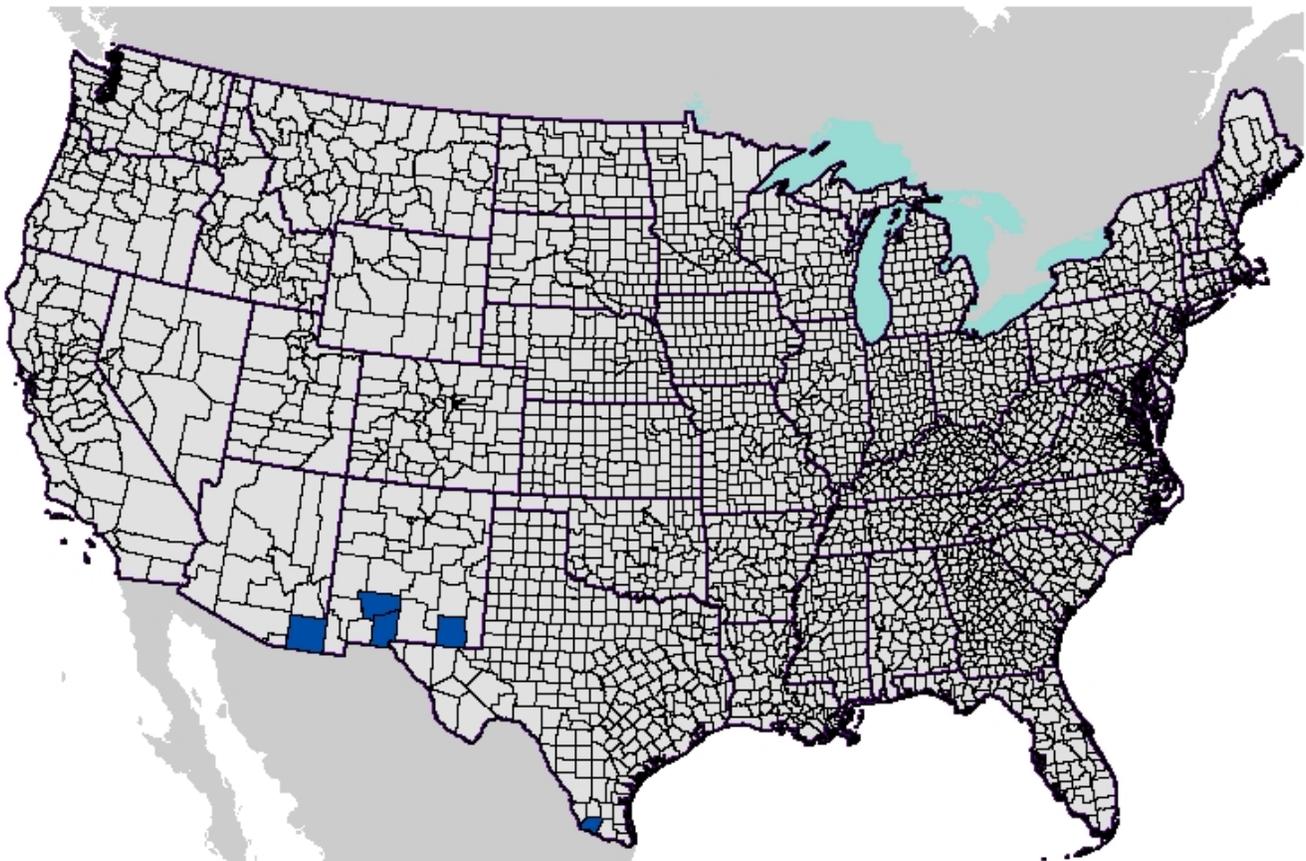
**Table 1. Location, number, and status of VSV-affected premises. New information in blue.**

	Confirmed Positive Premises	Suspect Premises	Premises Released from Quarantine	Current Premises Quarantined
<b>ARIZONA</b>				
Cochise County	1	0	0	1
<b>TOTAL: 1 COUNTY</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>1</b>
<b>NEW MEXICO</b>				
Dona Ana County	4	0	0	4
Eddy County	1	0	0	1
Sierra County	2	0	0	2
<b>TOTAL: 3 COUNTIES</b>	<b>7</b>	<b>0</b>	<b>0</b>	<b>7</b>
<b>TEXAS</b>				
Starr County	2	0	0	2
<b>TOTAL: 1 COUNTY</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>2</b>
<b>TOTAL PREMISES ALL STATES</b>	<b>10</b>	<b>0</b>	<b>0</b>	<b>10</b>

**Table 2. Cumulative count of species clinically affected on VSV-positive premises.**

State	Premises with clinically affected equine species	Premises with clinically affected bovine species	Premises with clinical signs in both equine and bovine species	Premises with clinical signs in other susceptible species	Total affected premises
ARIZONA	1	0	0	0	1
NEW MEXICO	7	0	0	0	7
TEXAS	2	0	0	0	2
<b>TOTAL</b>	<b>10</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>10</b>

**Map 1. Counties with Current VSV-Quarantined Premises (shaded in blue)**



### Table 3. VSV Serotypes Identified During the 2020 Outbreak

Both VSV-Indiana (VSV-IN) and VSV-New Jersey (VSV-NJ) serotypes have been identified during the 2020 outbreak. VSV-IN occurred in the U.S. in 2019, while VSV-NJ was last isolated in the U.S. in the 2014-2015 outbreak. Both serotypes are known to circulate in endemic cycles in southern Mexico. The last U.S. outbreak involving both serotypes occurred in 1997-1998.

State	Premises with VSV-IN serotype confirmed	Premises with VSV-NJ serotype confirmed	Premises with VSV serotype unconfirmed*	Total VSV affected premises
ARIZONA	0	0	1	1
NEW MEXICO	7	0	0	7
TEXAS	0	2	0	2
<b>TOTAL</b>	<b>7</b>	<b>2</b>	<b>1</b>	<b>10</b>

\*Livestock in the southwestern U.S. and Rocky Mountain region have been exposed to both VSV-NJ and VSV-IN in recent outbreak years. New infection with either serotype in 2020 can cause elevated antibody titers to both serotypes if previously encountered. The current infection serotype on a premises may not be able to be confirmed if elevated antibodies to both serotypes are present in the animals and antigen detection tests (RT-PCR and virus isolation) are negative. Additionally, VSV serotype will not be known in suspect cases in which diagnostic testing does not occur.

### Table 4. Timeline of Events

Date	Event
April 13, 2020	VSV index case for the U.S. confirmed at NVSL – Dona Ana County, New Mexico. New affected county confirmed – Sierra County, New Mexico
April 20, 2020	New affected county confirmed – Eddy County, New Mexico
April 22, 2020	VSV index case for Arizona confirmed – Cochise County, Arizona
April 23, 2020	VSV index case for Texas confirmed – Starr County, Texas