USDA
United States Department of Agriculture

Animal and Plant Health Inspection Service

Veterinary Services

2020 Vesicular Stomatitis Virus (VSV) Situation Report – October 29, 2020

Information current as of 5:00 pm MDT, 10/29/2020

There have been no new VSV-positive states identified since July 27, 2020. VSV-affected states during the 2020 outbreak include Arizona, Arkansas, Kansas, Missouri, Nebraska, New Mexico, Oklahoma, and Texas.

Since the last situation report (10/22/2020), there have been no new VSV-positive premises identified and there are no active quarantines remaining on previously VSV-affected premises in the U.S. since October 15, 2020. Surveillance for VSV is ongoing and animals presenting with clinical signs compatible with VSV infection will be tested.

Classification of Cases

Premises that have laboratory diagnostic results meeting the VSV confirmed case definition 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. Premises may also be classified as suspect if clinical animals on the premises fail to meet confirmed case definition, but there is diagnostic evidence of recent VSV infection.

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

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, Texas, Kansas, Nebraska, Oklahoma, Missouri, and Arkansas subsequently broke with VSV cases which were confirmed by NVSL on April 22, 2020 (Cochise County, Arizona), April 23, 2020 (Starr County, Texas), June 16, 2020 (Butler County, Kansas), June 24, 2020 (Buffalo County, Nebraska), July 7, 2020 (Washington County, Oklahoma), July 13, 2020 (Newton County, Missouri), and July 27, 2020 (Benton County, Arkansas).

Since the start of the outbreak, **326 VSV-affected premises have been identified (206 confirmed positive, 120 suspect).** Three hundred thirteen (313) of these premises had only equine species clinically affected, 12 premises had clinically affected cattle (McMullen, Starr, and Zapata Counties, Texas; Butler, Cowley, Marion, and Montgomery Counties, Kansas; Cedar and Ozark Counties, Missouri), and 1 premises had both equine species and cattle clinically affected (Cedar County, Missouri).

Arizona has identified 19 affected premises (18 confirmed positive, 1 suspect) in 7 counties (Apache, Cochise, Gila, Maricopa, Pima, Pinal, and Santa Cruz Counties). Arkansas has identified 4 affected premises (4 confirmed positive) in 1 county (Benton County). Kansas has identified 196 affected premises (101 confirmed positive, 95 suspect) in 26 counties (Allen, Bourbon, Butler, Chase, Cherokee, Coffey, Cowley, Crawford, Elk, Franklin, Greenwood, Harvey, Johnson, Labette, Linn, Lyon, Marion, Miami, Montgomery, Morris, Neosho, Riley, Sedgwick, Sumner, Wilson and Woodson Counties). Missouri has identified 54 affected premises (37 confirmed positive, 17 suspect) in 12 counties (Camden, Cedar, Dallas, Douglas, Jasper, Lawrence, McDonald, Newton, Ozark, Phelps, St. Clair, and Texas Counties). Nebraska has identified 5 affected premises (5 confirmed positive) in 3 counties (Buffalo, Gage, and Johnson Counties). New Mexico has identified 16 affected premises (13 confirmed positive, 3 suspect) in 6 counties (Bernalillo, De Baca, Dona Ana, Eddy, Grant and Sierra Counties). Oklahoma has identified 22 affected premises (18 confirmed positive, 4 suspect) in 9 counties (Adair, Cherokee, Craig, Nowata, Osage, Ottawa, Rogers, Tulsa, and Washington Counties). Texas has identified 10 affected premises (10 confirmed positive, 0 suspect) in 6 counties (El Paso, Hudspeth, Kerr, McMullen, Starr, and Zapata Counties).

To date, all VSV-quarantined premises have been released in New Mexico (since June 4, 2020), Texas (since June 8, 2020), Arizona (since July 8, 2020), Nebraska (since July 30, 2020), Arkansas (since August 19, 2020), Oklahoma (since August 26, 2020), Kansas (since September 23, 2020), and Missouri (since October 15, 2020).

Summary of VSV-Affected Premises

Table 1. Location, number, and status of VSV-affected premises.

ARIZONA	Confirmed Positive Premises	Suspect Premises	Premises Released from Quarantine	Current Premises Quarantined
Apache County	2	0	2	0
Cochise County	4	0	4	0
Gila County	1	0	1	0
Maricopa County	7	1	8	0
Pima County	1	0	1	0
Pinal County	2	0	2	0
Santa Cruz County	1	0	1	0
TOTAL: 7 COUNTIES	**18**	**1**	**19**	**0**
ARKANSAS				
Benton County	4	0	4	0
TOTAL: 1 COUNTY	**4**	**0**	**4**	**0**

KANSAS	Confirmed Positive Premises	Suspect Premises	Premises Released from Quarantine	Current Premises Quarantined
Allen County	3	5	8	0
Bourbon County	1	0	1	0
Butler County	31	24	55	0
Chase County	1	1	2	0
Cherokee County	6	7	13	0
Coffey County	1	2	3	0
Cowley County	9	8	17	0
Crawford County	1	1	2	0
Elk County	1	0	1	0
Franklin County	1	0	1	0
Greenwood County	2	2	4	0
Harvey County	1	0	1	0
Johnson County	1	1	2	0
Labette County	2	4	6	0
Linn County	2	1	3	0
Lyon County	3	2	5	0
Marion County	2	0	2	0
Miami County	3	6	9	0
Montgomery County	6	10	16	0
Morris County	1	1	2	0
Neosho County	3	10	13	0
Riley County	1	0	1	0
Sedgwick County	13	1	14	0
Sumner County	2	4	6	0
Wilson County	3	5	8	0
Woodson County	1	0	1	0
TOTAL: 26 COUNTIES	**101**	**95**	**196**	**0**
MISSOURI				
Camden County	2	0	2	0
Cedar County	3	0	3	0
Dallas County	2	0	2	0
Douglas County	1	0	1	0
Jasper County	8	6	14	0
Lawrence County	1	1	2	0
McDonald County	5	2	7	0
Newton County	8	7	15	0
Ozark County	3	1	4	0
Phelps County	2	0	2	0
St. Clair County	1	0	1	0
Texas County	1	0	1	0
TOTAL: 12 COUNTIES	**37**	**17**	**54**	**0**
NEBRASKA				
Buffalo County	3	0	3	0

Gage County	1	0	1	0
Johnson County	1	0	1	0
TOTAL: 3 COUNTIES	**5**	**0**	**5**	**0**
NEW MEXICO	**Confirmed Positive Premises**	**Suspect Premises**	**Premises Released from Quarantine**	**Current Premises Quarantined**
Bernalillo County	1	0	1	0
De Baca County	2	0	2	0
Dona Ana County	6	1	7	0
Eddy County	1	0	1	0
Grant County	1	0	1	0
Sierra County	2	2	4	0
TOTAL: 6 COUNTIES	**13**	**3**	**16**	**0**
OKLAHOMA				
Adair County	1	0	1	0
Cherokee County	3	0	3	0
Craig County	1	1	2	0
Nowata County	1	0	1	0
Osage County	2	1	3	0
Ottawa County	4	0	4	0
Rogers County	1	2	3	0
Tulsa County	1	0	1	0
Washington County	4	0	4	0
TOTAL: 9 COUNTIES	**18**	**4**	**22**	**0**
TEXAS				
El Paso County	1	0	1	0
Hudspeth County	1	0	1	0
Kerr County	1	0	1	0
McMullen County	1	0	1	0
Starr County	4	0	4	0
Zapata County	2	0	2	0
TOTAL: 6 COUNTIES	**10**	**0**	**10**	**0**
TOTAL PREMISES ALL STATES	**206**	**120**	**326**	**0**

Map 1 (Current). Counties with Current VSV-Quarantined Premises

There are currently no active quarantines on previously VSV-affected premises in the United States.

Map 2 (Cumulative). Counties with Premises Quarantined for VSV in 2020

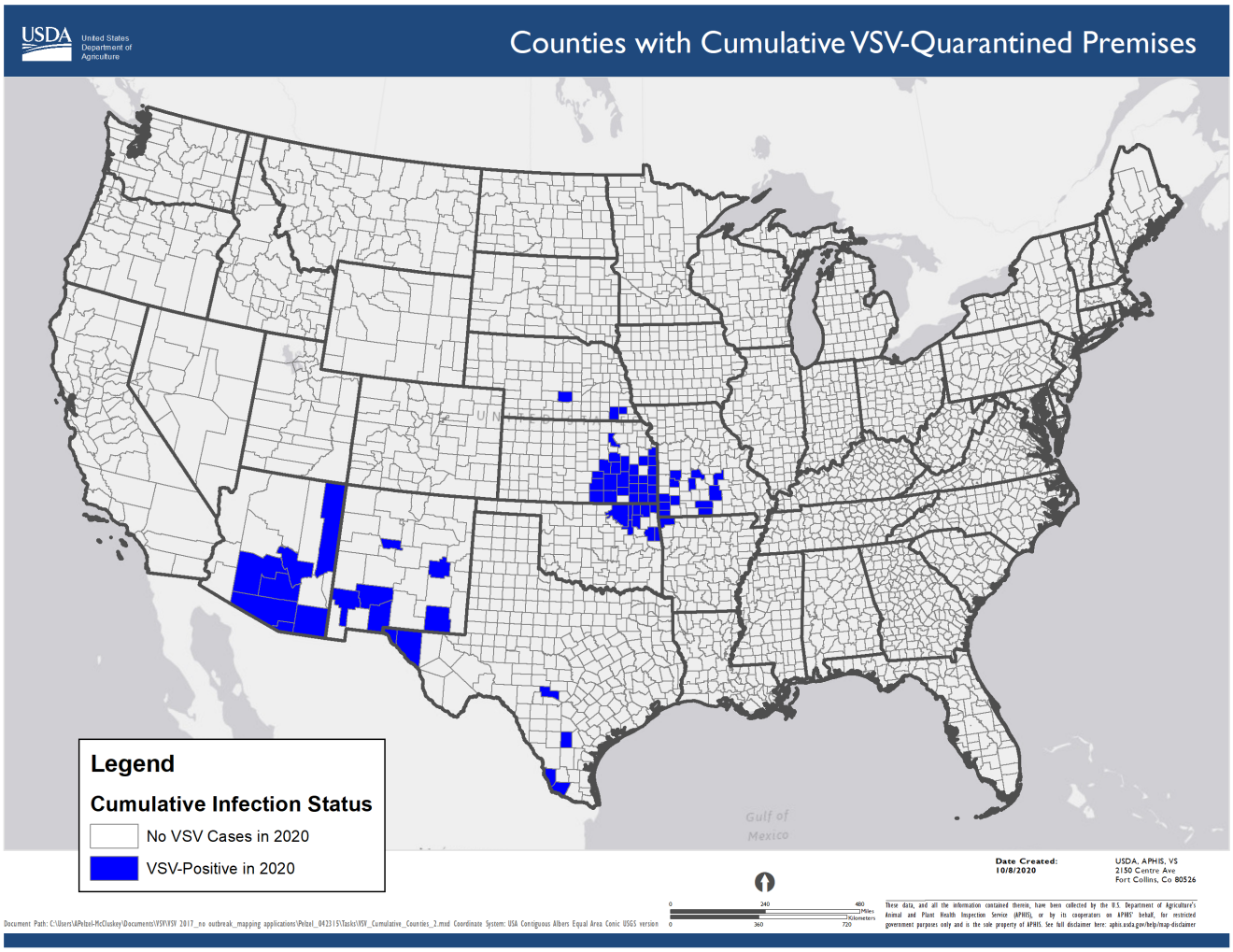

Table 2. Cumulative count of species clinically affected on VSV-positive premises.

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	19	0	0	0	19
ARKANSAS	4	0	0	0	4
KANSAS	190	6	0	0	196
MISSOURI	51	2	1	0	54
NEBRASKA	5	0	0	0	5
NEW MEXICO	16	0	0	0	16
OKLAHOMA	22	0	0	0	22
TEXAS	6	4	0	0	10
TOTAL	**313**	**12**	**1**	**0**	**326**

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	17	0	2	19
ARKANSAS	4	0	0	4
KANSAS	109	0	87	196
MISSOURI	38	0	16	54
NEBRASKA	5	0	0	5
NEW MEXICO	13	0	3	16
OKLAHOMA	20	0	2	22
TEXAS	3	7	0	10
TOTAL	**209**	**7**	**110**	**326**

*Livestock in the southwestern and Rocky Mountain regions of the U.S. 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.

Figure 1. Epidemic Curve of 2020 VSV Outbreak

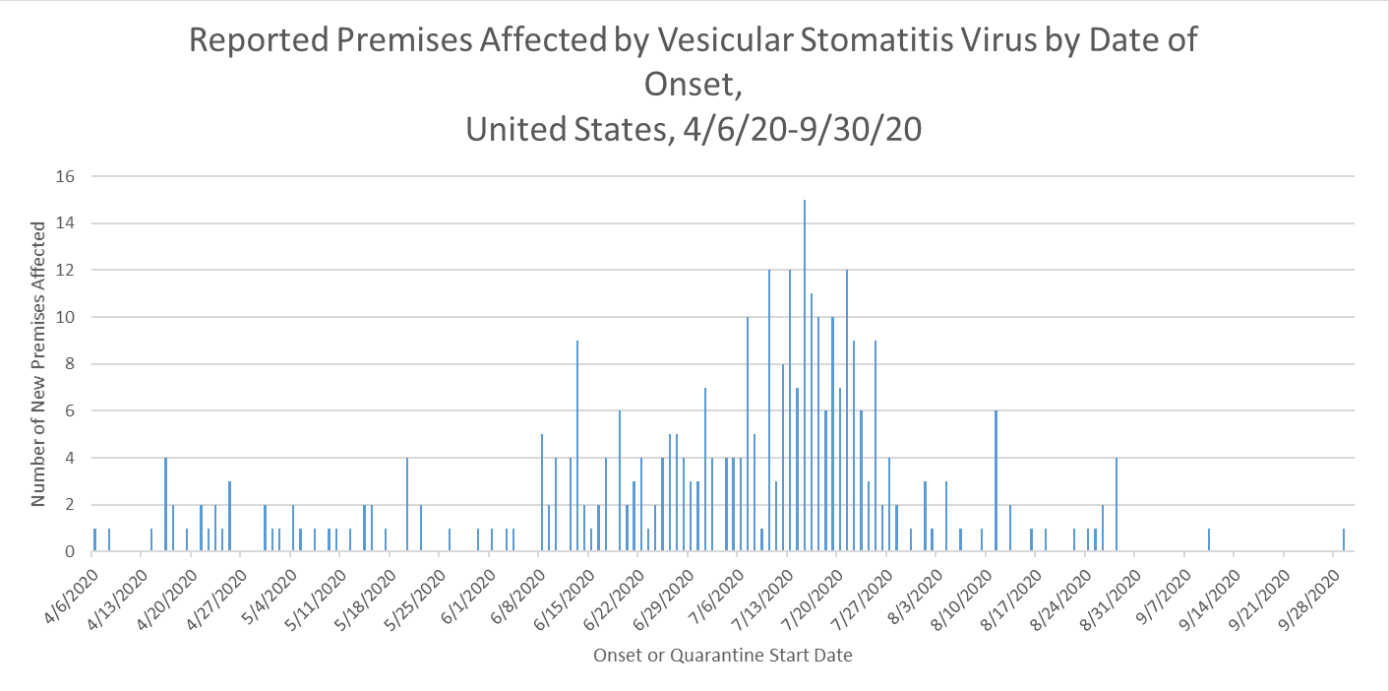

Table 4. Timeline of Events

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
April 27, 2020	New affected county confirmed – Pinal County, Arizona
April 29, 2020	New affected county confirmed – El Paso County, Texas
May 4, 2020	New affected county confirmed – Grant County, New Mexico
May 6, 2020	New affected counties confirmed – Gila County, Arizona; Zapata County, Texas
May 7, 2020	New affected counties confirmed – Pima, County, Arizona; Bernalillo and De Baca Counties, New Mexico
May 19, 2020	New affected county confirmed – McMullen County, Texas
May 20, 2020	New affected county confirmed – Hudspeth County, Texas
May 21, 2020	New affected counties confirmed – Santa Cruz County, Arizona; Kerr County, Texas
May 22, 2020	New affected county confirmed – Maricopa County, Arizona
May 29, 2020	New affected county confirmed – Apache County, Arizona
June 4, 2020	All VSV quarantines released in New Mexico
June 8, 2020	All VSV quarantines released in Texas

June 16, 2020	VSV index case for Kansas confirmed – Butler County, Kansas
June 17, 2020	New affected county confirmed – Cowley County, Kansas
June 19, 2020	New affected county confirmed – Sedgwick, Kansas
June 24, 2020	VSV Index case for Nebraska confirmed – Buffalo County, Nebraska. New affected county confirmed – Sumner County, Kansas
July 2, 2020	New affected counties confirmed – Greenwood and Marion Counties, Kansas.
July 7, 2020	VSV index case for Oklahoma confirmed – Washington County, Oklahoma. New affected county confirmed – Montgomery County, Kansas.
July 8, 2020	All VSV quarantines released in Arizona
July 9, 2020	New affected county confirmed – Johnson County, Nebraska.
July 10, 2020	New affected county confirmed – Morris County, Kansas
July 13, 2020	VSV index case for Missouri confirmed – Newton County, Missouri. New affected counties confirmed – Chase and Miami Counties, Kansas.
July 15, 2020	New affected county confirmed – Craig County, Oklahoma
July 17, 2020	New affected counties confirmed – Allen, Coffey, Lyon, Neosho, and Wilson Counties, Kansas; Jasper County, Missouri; Osage and Ottawa Counties, Oklahoma.
July 20, 2020	New affected counties confirmed – Cherokee, Elk, and Labette Counties, Kansas; Lawrence County, Missouri.
July 21, 2020	New affected county confirmed – Tulsa County, Oklahoma
July 22, 2020	New affected counties confirmed – Bourbon and Woodson Counties, Kansas; Gage County, Nebraska; Adair and Nowata Counties, Oklahoma.
July 23, 2020	New affected counties confirmed – Linn County, Kansas; Cedar County, Missouri.
July 24, 2020	New affected counties confirmed – Riley County, Kansas; McDonald County, Missouri; Rogers County, Oklahoma
July 27, 2020	VSV index case for Arkansas confirmed – Benton County, Arkansas
July 28, 2020	New affected counties confirmed – Crawford and Franklin Counties, Kansas
July 29, 2020	New affected county confirmed – Cherokee County, Oklahoma
July 30, 2020	All VSV quarantines released in Nebraska
July 31, 2020	New affected counties confirmed – Ozark and St. Clair Counties, Missouri
August 7, 2020	New affected county confirmed – Camden County, Missouri
August 11, 2020	New affected counties confirmed – Harvey and Johnson Counties, Kansas; Douglas County, Missouri
August 19, 2020	All VSV quarantines released in Arkansas
August 26, 2020	All VSV quarantines released in Oklahoma
August 28, 2020	New affected county confirmed – Dallas County, Missouri
September 3, 2020	New affected county confirmed – Phelps County, Missouri
September 23, 2020	All VSV quarantines released in Kansas
October 8, 2020	New affected county confirmed – Texas County, Missouri
October 15, 2020	All VSV quarantines released in Missouri