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United States
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Animal and Plant
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Veterinary Services

Emergency
Management and
Diagnostics

National Center for
Animal Health
Emergency
Management

4700 River Road
Riverdale, MD 20737
Unit 41

(301) 734-8073
(301) 734-7817 fax

TO: State Animal Health Officials, AVICs

FROM: APHIS CEM Coordination Group

SUBJECT: FY 2009 CEM Incident Situation Report; Includes Data Reported
Through COB June 2, 2009

A. Epidemiology Summary

A total of 21 stallions have been confirmed by USDA's National Veterinary Services Laboratories (NVSL) as positive for *Taylorella equigenitalis*, the causative organism of contagious equine metritis (CEM). The NVSL has also confirmed that five mares are positive for *T. equigenitalis*. None of the positive horses have yet been identified as the source of the outbreak; the epidemiologic investigation continues to pursue all available information relative to determining the origin of this outbreak, but no conclusions can yet be drawn.

In addition to the 21 positive stallions and 5 positive mares, [locations have been confirmed for 944 additional horses exposed to *T. equigenitalis*. The total of 970 horses, located in 48 States, includes 276 stallions and 694 mares.](#) The only States that currently have no positive or exposed horses are Hawaii and Rhode Island.

[Of the 276 stallions, 76 \(27.5 percent\), including 67 exposed and 9 formerly positive, have now completed their entire testing and treatment protocol and are negative for *T. equigenitalis* \(see Table 1\). Another 106 exposed stallions have had at least one set of negative cultures prior to test breeding. Of the 694 mares, 478 \(68.9 percent\) have completed their testing and treatment protocol and are negative for *T. equigenitalis* \(see Table 1\).](#)

The 21 positive stallions have been found in 7 States: Georgia (1), Illinois (3), Indiana (3), Iowa (1), Kentucky (4), Texas (1), and Wisconsin (8). Nine of the positive stallions (3 in Indiana, 4 in Kentucky, 1 in Texas, 1 in Wisconsin) have successfully completed their treatment and subsequent testing protocol and are now free of *T. equigenitalis*. Of the five positive mares, two were found in California, two in Illinois, and one in Wisconsin. One of the positive California mares has completed her treatment and testing protocol and is now free of *T. equigenitalis*.

In addition to the four Kentucky stallions, the Texas stallion and all three Indiana stallions were resident in 2008 on the central Kentucky premises where the initial *T. equigenitalis* detection occurred. None of the positive stallions in Wisconsin have been on the Kentucky premises. The first Wisconsin stallion detected as positive for *T. equigenitalis* was co-located during the 2007 breeding season in Wisconsin with one of the three positive stallions currently in Indiana. That Indiana stallion was on the

Kentucky premises in 2008. The second and third Wisconsin stallions were co-located with the first positive Wisconsin stallion during both the 2007 and 2008 breeding seasons in Wisconsin. The fourth Wisconsin stallion was co-located during the 2006 breeding season in Wisconsin with the third positive Wisconsin stallion and during the 2005 and 2006 breeding seasons with the Indiana stallion that was in Kentucky in 2008. The fifth positive Wisconsin stallion had semen collected on multiple occasions from 2004 to 2009 at the same premises in Wisconsin where the fourth positive Wisconsin stallion and all three positive Illinois stallions were collected in various years from 2004 to 2007. The sixth positive Wisconsin stallion had semen collected several times from 2004 to 2008 at the same Wisconsin premises as the fifth Wisconsin stallion. The seventh positive Wisconsin stallion had semen collected in at least three different breeding seasons at the same Wisconsin premises associated with six other positive stallions, including the fourth, fifth, and sixth positive Wisconsin stallions. The eighth Wisconsin positive stallion had semen collected several times from 2005 to 2008 at the same Wisconsin premises as the fourth, fifth, sixth, and seventh positive Wisconsin stallions; he was imported into the United States through a CEM quarantine facility in Florida as a 7-year-old.

The positive stallion in Georgia was co-located during the 2008 breeding season in Wisconsin with the first, second, and third positive Wisconsin stallions. The first positive stallion in Illinois was co-located for periods of time during the 2004 and 2005 breeding seasons at the same premises in Wisconsin as the fourth positive Wisconsin stallion. The second and third positive stallions in Illinois reside on the same premises as the first Illinois stallion (and the positive Illinois mare). All three positive Illinois stallions were also collected at another premises in Illinois in 2007, and the first and third Illinois stallions were collected at that same Illinois premises in 2006. The positive gelding in Iowa was collected (as then a stallion) during the 2007 breeding season at the Wisconsin facility with which eight other positive stallions are known to have been associated.

The positive Wisconsin mare was bred by live cover to one of the positive stallions in Wisconsin. The first positive mare detected in Illinois was bred by artificial insemination (AI) in 2008 with fresh cooled semen from one of the positive stallions currently located in Indiana. The second positive mare detected in Illinois is on the same premises as the three positive Illinois stallions and was bred by AI in 2008 with cryopreserved semen collected in 2007 from the second positive Illinois stallion. Both positive California mares were bred by AI in 2008 with fresh cooled semen from the first positive stallion detected in Wisconsin.

All positive horses, and all exposed horses that have been located, are currently under quarantine or hold order. Testing and treatment protocols are being put into action for all located horses.

There are 29 States known to have exposed or positive stallions: Alabama, Colorado, Delaware, Florida, Georgia, Illinois, Indiana, Iowa, Kentucky, Louisiana, Maryland, Michigan, Minnesota, Mississippi, Missouri, Montana, New York, North Carolina, Ohio, Oklahoma, Pennsylvania, South Carolina, South Dakota, Texas, Vermont, Virginia, Washington, Wisconsin, and Wyoming. The exposure for most of the stallions has been co-location at a breeding facility with at least one positive stallion. Table 2 has more details on the status of all stallions that have been located to date.

There are 46 States known to have exposed or positive mares; the only States without exposed or positive mares are Hawaii, Rhode Island, Vermont, and Wyoming. The exposure for most of the mares has been through AI. Table 3 has more details on the locations and testing results of exposed mares.

An exposed horse is one that was bred, either naturally or via artificial insemination, to a horse positive for *T. equigenitalis*, or one that is otherwise epidemiologically linked to a positive horse, as determined by State and Federal animal health officials.

The USDA APHIS Hot Issues web link for CEM is:
www.aphis.usda.gov/newsroom/hot_issues/cem/index.shtml

The USDA APHIS National Center for Import and Export (NCIE) International Animal Export Regulations web link is: www.aphis.usda.gov/regulations/vs/iregs/animals/. The NCIE has posted new requirements for both the temporary and the permanent entry into Mexico of horses from CEM-free States and horses from States with diagnosed CEM cases. The requirements can be found at: www.aphis.usda.gov/regulations/vs/iregs/animals/animal_mexico.shtml

B. Diagnostic Testing Summary

NVSL has completed antibiotic susceptibility testing of *Taylorella equigenitalis* isolates from 17 positive stallions, 3 positive test mares (representing 2 positive stallions), and 5 positive exposed mares. Two isolates, one from a gelding and one from a positive test mare (representing one positive stallion), are currently pending susceptibility testing results.

All isolates tested so far show the exact same profile:

- Amikacin disk - susceptible
- Nitrofurantoin disk - susceptible
- Penicillin disk - susceptible
- Streptomycin Eugon plates - resistant
- Silver Sulfadiazine 1% cream - susceptible
- Tetracycline disk - susceptible
- Gentamicin disk - susceptible
- Nitrofurazone 0.2% cream - susceptible
- Streptomycin disk - resistant
- Sulfadiazine disk - susceptible
- Sulfamethoxazole/trimethoprim disk - susceptible
- Ticarcillin disk - susceptible

Table 1. Status Summary for All Exposed Horses							
Stallions				Mares			
Previous Status	Total Number	Current Status		Previous Status	Total Number	Current Status	
		Negative	Treatment/Testing Not Yet Completed			Negative	Treatment/Testing Not Yet Completed
Positive	21	9	12	Positive	5	1	4
Exposed	255	67	188	Exposed	689	477	212
Totals	276	76	200	Totals	694	478	216

Table 2. Location and Testing Status of Exposed Stallions

State ¹	Number of Stallions ²	Pre-Breeding Culture					Test Breeding		
		Scheduled?		In Process	Negative ³	Positive ⁴	In Process	Negative	Positive ⁵
		No	Yes						
Alabama	3	1	-	-	2	-	1	-	-
Colorado	1	-	1	-	-	-	-	-	-
Delaware	1	-	-	-	1	-	1	-	-
Florida	4	-	-	-	4	-	-	3	-
Georgia	3	-	-	-	3	-	-	2	1
Illinois	30	4	-	3	20	3	10	4	-
Indiana	5	-	-	-	2	3	-	5	-
Iowa	1	-	-	-	-	1	-	-	-
Kentucky	16	-	-	-	12	4	-	16	-
Louisiana	1	-	-	-	1	-	-	1	-
Maryland	3	-	-	1	2	-	2	-	-
Michigan	1	-	-	-	1	-	-	1	-
Minnesota	3	-	-	-	3	-	-	-	-
Mississippi	2	-	-	-	2	-	1	1	-
Missouri	3	-	-	1	2	-	1	-	-
Montana	2	-	-	-	2	-	1	-	-
New York	1	-	-	-	1	-	-	1	-
North Carolina	1	-	-	-	1	-	-	1	-
Ohio	15	1	-	-	14	-	4	8	-
Oklahoma	1	-	-	1	-	-	-	-	-
Pennsylvania	3	1	-	-	2	-	-	-	-
South Carolina	2	1	-	-	1	-	-	-	-
South Dakota	1	-	-	-	1	-	1	-	-
Texas	14	2	-	1	10	1	8	1	-
Vermont	1	-	-	-	1	-	-	-	-
Virginia	1	-	-	-	1	-	1	-	-
Washington	2	-	-	-	2	-	1	-	-
Wisconsin	154	63	-	1	84	6	16	32	2
Wyoming	1	-	-	-	1	-	-	-	-
Totals	276	73	1	8	176	18	48	76	3

1 - State in which a given horse is currently undergoing testing and treatment, or State in which testing and treatment was completed.

2 - Includes stallions gelded since being exposed; geldings cannot usually perform test breeding, so the count of those undergoing test breeding may never equal the total number of stallions/geldings counted for a given State.

3 - Negative results to date, but multiple cultures may be performed before a final negative culture result is declared; final negative culture is followed by test breeding.

4 - Stallions positive on pre-breeding culture are treated, then re-cultured; negative culture results are required prior to test breeding.

5 - Stallions positive on test breeding are treated, then re-cultured and test bred again; negative culture results are required prior to additional test breeding.

Table 3. Location and Testing Results of Exposed Mares

Eastern Region States	Mares Located	Testing Completed		Mares Being Traced	Western Region States	Mares Located	Testing Completed		Mares Being Traced
		Positive*	Negative				Positive*	Negative	
Alabama	3	-	2	-	Alaska	1	-	1	-
Connecticut	3	-	2	-	Arizona	6	-	4	-
Delaware	1	-	1	-	Arkansas	3	-	3	-
Florida	29	-	23	-	California	43	2	34	-
Georgia	9	-	9	-	Colorado	7	-	5	2
Illinois	23	2	15	-	Hawaii	-	-	-	-
Indiana	36	-	34	-	Idaho	12	-	9	-
Kentucky	54	-	35	-	Iowa	22	-	18	-
Maine	7	-	3	-	Kansas	13	-	10	-
Maryland	1	-	1	-	Louisiana	1	-	-	-
Massachusetts	3	-	2	-	Missouri	12	-	6	-
Michigan	46	-	22	1	Montana	1	-	1	-
Minnesota	29	-	18	-	Nebraska	8	-	7	-
Mississippi	6	-	5	-	Nevada	2	-	2	-
North Carolina	12	-	7	-	New Mexico	1	-	-	-
New Hampshire	3	-	-	-	North Dakota	1	-	-	-
New Jersey	9	-	8	1	Oklahoma	8	-	7	-
New York	12	-	9	-	Oregon	2	-	2	-
Ohio	39	-	30	3	South Dakota	3	-	3	-
Pennsylvania	8	-	7	-	Texas	35	-	31	-
Puerto Rico	-	-	-	-	Utah	1	-	1	-
Rhode Island	-	-	-	-	Washington	14	-	8	-
South Carolina	9	-	5	-	Wyoming	-	-	-	-
Tennessee	7	-	5	-	Totals	196	2	152	2
Vermont	-	-	-	-					
Virginia	11	-	5	-					
West Virginia	3	-	-	-					
Wisconsin	135	1	78	9					
Totals	498	3	326	14					

* Positive mares require additional treatment and testing.